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CONTENTS.

ORIGINAL ARTICLES:

- The History, Nature, and Treatment of Tuberculosis. By
H. KELLYBACH, M.D., F.R.C.P., F.R.S.E.
A Medical and Pathological Study of Tuberculosis. By Dr.
J. KELLYBACH.
Some Observations on the Treatment of the Various Forms of
Tuberculosis. By Dr. J. KELLYBACH.
The Influence of Tuberculosis on the Systemic Circulation. By
Dr. J. KELLYBACH.
Tuberculosis—Etiology and Treatment. By Dr. J. KELLYBACH.

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OF

TUBERCULOSIS

Vol. XXIII.

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No. 3.

ORIGINAL ARTICLES.

THE MEDICAL RESEARCH COUNCIL AND ULTRA-VIOLET RADIATION.

By MAURICE WEINBREN,

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AN authoritative statement on the abuses in the field of actinotherapy has long been necessary. The prominence given to ultra-violet rays in the lay press soon resulted in many unqualified practitioners setting up as actinotherapists. Even on the medical side conditions became unsatisfactory. Many clinics were equipped and put in charge of people who had no more training in ultra-violet therapy, either theoretical or practical, than was required to switch on the apparatus. Manufacturers were not slow to see the profitable advantages of mass production of apparatus, some of which is useless from the therapeutic point of view and definitely dangerous from its electrical design. The result is that one is now offered "treatment" by many a barber and apparatus by many an ironmonger. The Minister of Health in answer to a question, some time ago, as to the dangers of ultra-violet therapy, replied that if any evidence of such dangers were forthcoming, he would take action. Recent inquests have supplied the evidence. The verdict of one was that death was due to a duodenal ulcer following an ultra-violet burn. The verdict of another was that death was due to electrical shock which might have occurred in no less than five different ways, from the faultily designed apparatus.

A report by the Medical Research Council on these aspects of ultra-violet therapy would have been of the greatest value, and doubtless the authors of the recent report¹ had this in view. Unfortunately, instead of stressing the abuses in the way ultra-violet was being administered, the authors chose to attack the subject itself. The

result is that a report has been presented which is so biased and so misleading that it must be rejected by any one who has had any experience of ultra-violet treatment

If the report is studied carefully it will be observed that there is not a single condition, with the exception of lupus, in which it is admitted that ultra-violet should be given. And even for this condition of lupus the local effect only is admitted. The fact, that since the introduction of general ultra-violet radiation combined with the local exposures^{2,3} the percentage of cures has been raised from about sixty to ninety, is omitted. It is passed without comment for the obvious reason that some explanation, other than the merely caustic action of the rays, would have to be found, and the report is out to show that, apart from the formation of vitamin D in the skin, there is no scientific basis for ultra-violet treatment.

Even in relation to vitamin D formation the authors adopt the attitude that irradiation is unnecessary, as the vitamin can be supplied much more cheaply through cod-liver oil. They do not mention, as Banks⁴ has done, that many children cannot take cod-liver oil. To put ultra-violet radiation in an even more unfavourable light in relation to cod-liver oil, a statement is made that it commonly costs three to four shillings to give an effective supply of vitamin D that would cost less than one penny if given by mouth by cod-liver oil. A dogmatic statement of this description is quite unjustified. Ultra-violet apparatus varies enormously in output and a very small dose will prevent rickets.⁵ To show that there is no effect other than the formation of vitamin D, the report quotes a test by Dr. Dora Colebrook on a number of children examined at Willesden. The results of this test have not as yet been published, but we are asked to accept it, and on the strength of it, to reject the testimony of expert observers—*e.g.*, the Medical Officer of Health for Bermondsey⁶ and the Assistant Medical Officer of Health for Birmingham^{6a}, the excellent work carried out on behalf of the Council by Dr. Duke-Elder, or even the opinion of the most distinguished clinician on the Advisory Light Committee to the Medical Research Council itself, Sir Henry Gauvain. Dr. Duke-Elder⁷ published his results in the treatment of over 700 cases, and if space had permitted every sentence of his reports should have been quoted. Of particular interest to the readers of this JOURNAL is his opinion that in tuberculous irido-cyclitis, tuberculous choroiditis, tuberculous sclerokeratitis and tuberculous dacryocystitis ultra-violet therapy gives excellent results: "I think that there is little doubt that for these infections treatment by ultra-violet light is the method of choice." Again, he states: "Closely allied in its incidence and as dramatic in its response is phlyctenular keratitis. Especially does this apply to children, and the typical phlyctenular child, pale, fretful, irritable and

distressed with photophobia, may be transformed into a different being in the course of a few weeks' treatment. Even in those chronic cases which have gone on with intermissions for many years, leaving a cornea constantly breaking down and an eye practically useless for visual purposes, the disease may be definitely overcome and a quiet eye result." Dr. Duke-Elder deals with various other conditions which, like the above, have responded to general ultra-violet radiation and no ophthalmologist has disputed his statement. Where is the explanation for this? Was it due merely to the vitamin D which could have been replaced by cod-liver oil, or was it due to some other photochemical reaction, resulting through an effect on the endocrines, on the nervous system or on the blood itself, which raised the resisting power of the patients? If, as the report appears to assume, the only effect of irradiation is the formation of vitamin D, why did not the Council ask Mr. Duke-Elder for a control series treated by cod-liver oil?

The Council naively states that it is aware of no properly controlled experiments to set against the tests of Dr. Dora Colebrook. Sir Henry Gauvain⁸ has published such tests, and this is his opinion: "While the physique of those receiving light treatment showed improvement as compared with the others, the mental effects were even more marked." He also quotes tests by Dr. McCrae which showed that crippled children receiving light were one mental year better than the controls.

According to the report of the Medical Research Council the only other medical uses of light which have already a basis in physiology depend upon its power of exciting an inflammatory reaction in the skin; hence the treatment of lupus. Under the same heading the report deals with the increased hæmobactericidal power as the result of an erythema dose. It points out that this effect is so transient and vague that it is no justification for giving light treatment as an aid to convalescence, or for the preservation of a feeling of well-being. It must be noted that the technique in the treatment of lupus and that for the increased bactericidal power of the blood bear little relation to each other. In lupus the dose is so vigorous that a caustic action is the result, while for the increased bactericidal power a minimal erythema dose is necessary. It may be true that the hæmobactericidal effect has been exaggerated, as the results obtained by the Council's investigators have not been confirmed by Bannerman⁹ in England, at the Finsen Institute,¹⁰ or by an experimenter in Italy. But there can be little doubt, whether it be due to this effect or to some effect not yet explained, that light does help in convalescence and does impart a sense of well-being. This has been noted clinically time and again, and even since the report was published proof has been provided by an investigation at the Cornell Institute¹¹ on over 2,000 cases, scientifically con-

trolled, that the incidence of "the common cold" is less amongst students irradiated than amongst the controls. Who will accept the view that an effect demonstrated clinically, but for which there is no immediate scientific explanation, must be disregarded? Was Adrian Palm¹² wrong when he showed that there was a relation between the lack of sunlight and rickets some forty years ago? Was Huldshinski⁶ wrong in 1918 when he stated he could cure rickets by artificial ultra-violet radiation? Yet the scientific explanation was only provided by Rosenheim and Webster¹³ some three years ago. Following the same line of thought, the report refers to the "much concordant testimony to the value of regulated skin exposure to artificial light as being adjuvant to the cure of chronic infections like those of tuberculosis," but promptly rejects this testimony because there is an element of uncertainty introduced by changes of food or the effect of visible rays. Is not this a mere quibble? All the available experimental evidence has shown that the biologically active rays are within the ultra-violet portion of the spectrum, and that if the visible rays have some effect it can be but slight. Equally good results have been reported from treatment with the mercury vapour lamp as from the carbon arc, and yet the output of visible rays in the mercury vapour apparatus is but a small proportion of the rays from the carbon arc. The Council does not feel convinced that the relatively small ultra-violet component of natural irradiation from the sun can be the principal factor in the treatment of tuberculosis. Is this not merely a debating point? Three years ago the Council with equal justice might have made the same statement in relation to rickets. They might as well argue that the amount of energy delivered to the patient in the form of X-ray compared to the amount taken from the mains is so small that it can do neither good nor harm. What is the proportion of vitamin D, by weight, in any quantity of cod-liver oil? Chronic cases of tuberculosis have been published^{14, 15} where the only change was the introduction of artificial light treatment.

Weak as is the Council's reasoning against general phototherapy, it is still weaker on the subject of the value of local radiation. Duke-Elder's work on local phototherapy is passed over in one sentence. No attempt is made to draw any conclusions from it. Eidenow's paper¹⁶ on the local origin of the hæmobactericidal power, which offers a possible explanation for ultra-violet rays clearing up local infections, is not even mentioned. On the contrary, because Dr. Dora Colebrook failed to heal varicose ulcers, the conclusion is drawn that there is no evidence of successful local treatment of skin ulcers. Does not this show a deplorable bias towards a belief in the unfavourable results?

Here is Duke-Elder's¹⁷ opinion on local phototherapy: "The local action of ultra-violet light is more specialized in its technique and more

dramatic in its effects than the general action. . . . An acute (corneal) ulcer is usually healed with one or two such treatments. A chronic ulcer, which may have progressed over a long period in spite of treatment with carbolization, and which may be associated with a considerable amount of deep keratitis, usually requires three, four, or six such treatments. . . . Even in hypopyon ulcers I believe this is the treatment of choice, and that it produces results more satisfactory than can be hoped for by any other method." Heald's claims regarding the results of ultra-violet treatment in burns is not mentioned.¹⁸ Turrell¹⁹ claims that ultra-violet light is a valuable preliminary to skin grafting. Sonne²⁰ reports the effect of ultra-violet on X-ray ulcers. Bernstein²¹ gives a detailed scheme for the treatment of varicose ulcers. Willmore²² has described dysenteric ulcers which failed to heal with the usual methods of treatment, but healed after the direct application of ultra-violet rays by means of a quartz rod passed through a sigmoidoscope. Schiller²³ and others have reported good results in the treatment of leg ulcers.

The conclusion should, therefore, be that there is some evidence of the value of ultra-violet rays in skin ulcers, but because of Dr. Colebrook's "intensive" enquiry²⁴ it is rejected. The latter undertook an enquiry into the relative merits of ultra-violet rays and Unna's paste in varicose ulcers. Seventy cases were treated, only thirty-one cases with ultra-violet rays. Her work was criticized²⁵ on the grounds that inadequate ultra-violet doses were given. No less than 75 per cent. of all the doses was sub-erythematous. Most of Dr. Colebrook's cases received less than two exposures a week. The more chronic the case the less often she saw it, even less than once a week. No attempt was made to treat the ulcerated surfaces, the edges of the ulcer, and the surrounding skin with different doses. Between exposures no support was allowed for the varicose veins other than that the patient was in the habit of wearing. Is it any wonder that varicose ulcers of many years' duration did not heal under these conditions? And yet, so impressed was the Council with this "intensive" enquiry, that it questions the justification for the value attached to radiation in the British Medical Association enquiry in over sixty cases.²⁶ The Council assumes that in the British Medical Association series the ulcers healed as the result of the rest, and not as the result of ultra-violet treatment. Apparently it has forgotten that in Dr. Colebrook's series fifteen of the thirty-one cases were treated at rest and only two healed. Five of the fifteen cases were kept at rest for an average of no less than five months, first with ultra-violet treatment and then with Unna's paste, but not one of the five healed. If rest played so important a part in the British Medical Association series why was it so ineffective in Dr. Colebrook's series?

What the Council's report amounts to is that because of two tests, one on general phototherapy, unpublished and the value of which we do not know, and one on a few cases with local ultra-violet, the value of which we have just seen, we are to reject the enormous amount of clinical material published all over the world pointing to the great value of ultra-violet rays as a therapeutic agent. We are to assume that these results might have been obtained by mustard plasters or other irritants, or even that they were due to faith-healing and suggestion. We are asked to reject the favourable reports published by the Council's other investigators. We are even to disregard the opinion of the distinguished men on its own Advisory Light Committee; and be it remembered on that Committee's list are the two names most closely associated with the development of ultra-violet treatment in this country—Professor Leonard Hill on the scientific side and Sir Henry Gauvain on the clinical side.

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A MEDICAL AND RADIOLOGICAL STUDY OF TUBERCULOSIS CAVITIES.¹

By DR. M. JAQUEROD

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THE term *cavity* has for a long time had a uniform and well-defined meaning in the medical world. It may be said to have been a classical term.

CASE A.



FIG. 1.—Cavity of the second degree: appearance after several small hæmoptyses. Two or three expectorations in twenty-four hours: tubercle bacilli present.



FIG. 2.—Clinical and anatomic healing after nine months' rest.

In all treatises on pulmonary tuberculosis, the classical descriptions of a tuberculosis cavity are practically identical—the wall consisting of a comparatively thickened fibrous capsule, with an inner lining of pyogenic membrane covered with granulations and ulcerating in suppurated areas. The cavity in cases of tuberculosis of the lungs is sometimes multilocular, and one or several communicating channels are generally visible, usually dilated in form and serving as a direct communication with the exterior. When reference is made to a *cavity* in the lungs it is always understood to correspond to this description.

It should not, however, be forgotten that this condition of cavitation refers to a late, or certainly to an advanced stage, in the "hollowing

¹ We are indebted to Miss M. L. Yeo for the English translation of Dr. Jaquero's valuable paper.—EDITOR, *B.J.T.*

out process." Before this is reached, the lesion has passed through successive phases which we may define as *different degrees of evolution*. Two of these are sufficiently characteristic from the anatomical standpoint and are stabilized over a long enough period to constitute a separate clinical entity each with its own individual symptoms.

It may be said that three principal degrees are evident in relation to cavities, of which the well-known "encapsulated cavity" represents the most advanced stage.

CASE B.

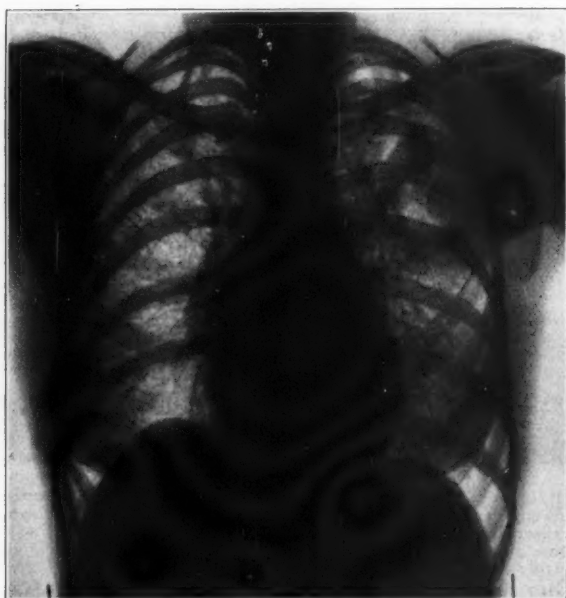


FIG. 1.—Large cavity, second degree, existing for about one year. Expectoration present: 50 c.c. in twenty-four hours, also tubercle bacilli.

The first degree is characterized radiographically by a somewhat indistinct circular outline with a somewhat blurred interior. It is clinically marked by the absence of expectoration. This represents the first phase in the breaking down process of caseation, the centre of which does not appear to have been entirely destroyed.

The second degree shows an annular and well-defined area occupying a uniform space. This is accompanied by muco-purulent expectoration containing tubercle bacilli. Anatomically the walls of the

cavity are composed of soft pulmonary tissue recently infected by tuberculous foci.

The third degree is characterized by a rounded formation, generally of large dimensions, and sometimes occupying an entire lobe of a lung. It may appear as a clear circle in the middle of a dark lung field. This is common with chronic cases and is characterized clinically by purulent expectoration containing numerous tubercle bacilli. The cavity in

CASE B.

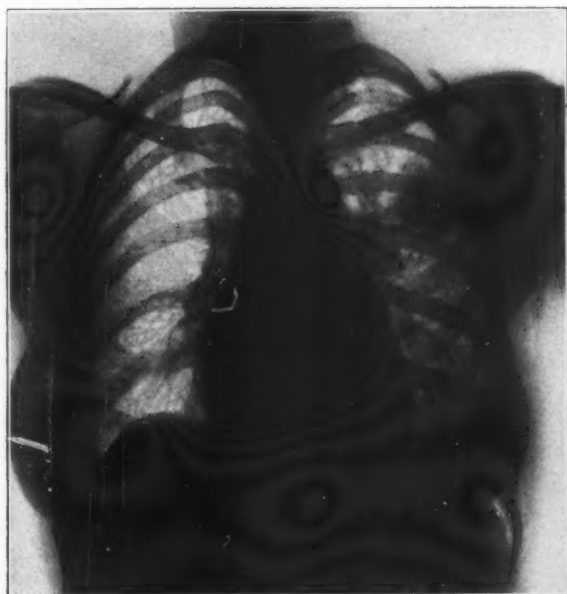


FIG. 2.—Clinical and anatomical healing, with fibrous scar, after eighteen months rest (confirmed after five years). Increase in weight: 15 kilos.

such a case shows a fibrous capsule which keeps it isolated from neighbouring tissues.

The above considerations must not be overlooked as they are of special importance in regard to curative treatment.

The healing of cavities in the third degree is only possible by a shrivelling of the walls, by encystment, by obstruction, by calcification (which occurs only in exceptional cases), or by complete fibrous absorption of the whole infected region, which is spoken of as lobular cicatrization, or a fibro-thorax.

On the other hand, cavities in the second degree may be cured rapidly and often without leaving any visible trace. Very probably they are arrested by the action of hypertrophy of the surrounding pulmonary tissue. The disappearance of the lesions of the first phase may either occur by "resolution" and leave no trace or in other cases they may be healed by fibrous absorption, leading to the circular formation, and when seen in X-ray films these persist indefinitely.

CASE C.

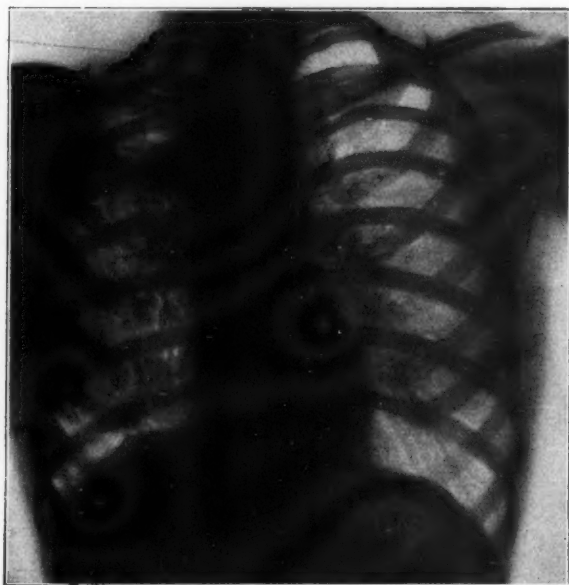


FIG. 1.—Cavity of third degree in right upper lobe. Expectoration profuse and purulent: tubercle bacilli present. Generalized pleural adhesions; pneumothorax impossible.

A knowledge of the above-mentioned processes is essential as a guide to the proper treatment of tuberculous cavities. The first degree does not generally demand collapse therapy. It will, however, be found that after some weeks of observation, pneumothorax treatment will nearly always be required in the second stage and then excellent results can be obtained.

In the third degree the chronic cavity shows much more resistance to compression of the pneumothorax, and often demands either thoraco-

plasty or phenicectomy, more especially in the case of lower cavities. Here the prognosis is particularly grave.

A pulmonary tuberculous cavity should no longer be considered as inevitably the final lesion, and therefore the most grave symptom in a case of tuberculosis of the lungs. The cavity may be a sign either of a recent or retarded lesion, or again it may be a sign of a grave or a mild lesion.

CASE C.

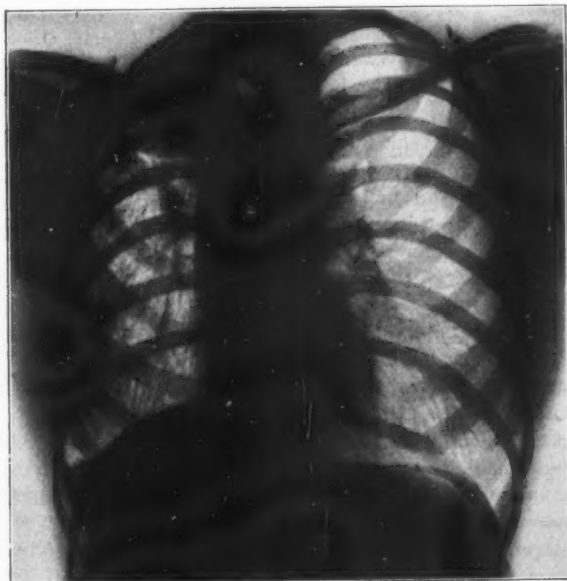


FIG. 2.—After two years' rest: clinical and anatomical healing by general fibrous absorption of the upper lobe. Increase in weight: 5 kilos. Condition unchanged four years later.

Finally, the prognosis does not depend on the *presence* of a cavity but on its tendency to remain *localised*, and on the general resistance of the subject.

The points referred to in this brief paper can be illustrated by reference to accompanying X-ray photographs.¹

¹ For fuller descriptions and illustrations of pulmonary tuberculous cavities reference should be made to Dr. Jaquierod's recently published book "*Étude Clinique et Radiologique des Cavernes Tuberculeuses*" (Paris: Masson et Cie), reviewed in a previous number of this JOURNAL (Vol. XXIII., p. 35).—EDITOR, B.J.T.

SOME OBSERVATIONS ON THE ASSESSMENT OF THE VALUE OF CERTAIN SYMPTOMS AND SIGNS IN THE DIAGNOSIS OF EARLY TUBERCULOUS INFECTION.

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AMONG much that is controversial in modern medicine there is general agreement on one broad issue—namely, that in the interests of our patients it is highly desirable that the manifestations of morbid processes should be detected at the earliest moment. Not least is the early recognition of disordered functions of importance in tuberculosis.

General Considerations.

But in our anxiety to make an early diagnosis it is equally important that we should not too readily accept as evidence of tuberculous infection expressions either of a trivial and passing functional disturbance, or of early disease of a totally different nature.

One of the chief recollections of the valuable and co-operative work of the medical boards organized by the Ministry of Pensions, which the writer has retained, was the number of men who had been labelled tuberculous on the slenderest of evidence, and not infrequently on X-ray reports alone.

The handicap in the economic struggle of today resulting from notification is so heavy that sometimes the writer feels that only sputum-positive cases should be reported to the public health authorities. Such a course, however, might tend to vitiate all efforts at early diagnosis. But it behoves us to weigh very carefully all the evidence before labelling a patient as definitely tuberculous. In the case of children also, in whom the classical type of adult disease is uncommon, the greatest caution should be exercised.

Largely as a consequence of the very unfortunate dissociation of tuberculosis from the work of the general hospital, there is a natural but undesirable tendency on the part of many tuberculosis officers and others engaged in this branch of work to over-estimate the amount of ill-health due to the bacillus of Koch. It cannot be entirely due to the differences in social and industrial conditions that the percentage of tuberculosis in children shows such wide variations in different parts of the country. How many of these tuberculous or "pretuberculous"

children are the subjects of other ailments—*e.g.*, adenoids, intestinal parasites, acidosis, rickets, or mild degrees of coeliac disease—all associated more or less with a catarrhal state of mucous membranes? What proportion of the large sums of money spent annually on prolonged periods of residence in various institutions could be saved by the administration of the appropriate treatment to the children as medical or surgical out-patients? It is to be hoped that the opportunities of linking up the Tuberculosis Service with specialists in other branches of medicine and surgery which will arise under the new Local Government Act will not be lost.

A Study of Symptoms.

In any analysis of the commonest combination of early symptoms in adult patients diagnosed as suffering from pulmonary tuberculosis, the triad, lack of strength, cough, and loss of weight, would probably take first place. That such combination of symptoms should arouse a strong suspicion of tuberculosis is not denied, but it is important to remember other possible causes. Chief among these the writer would venture to place *tobacco poisoning*. To more people than is generally acknowledged, "My Lady Nicotine" is an insidious and subtle drug, affecting deleteriously, even in comparatively small amounts, the digestive system, the cardio-vascular system, the nervous system, and the respiratory system. In connection with the last, which is our more immediate concern, the writer has lately seen several patients in whom the withdrawal of the weed has effected a "cure" of the suspected pulmonary tuberculosis, for which institutional treatment has been recommended. It is well to remember that the excessive consumption of cigarettes is, in these days, no longer confined to the male sex only. Not only do the symptoms in these patients suggest pulmonary tuberculosis, but there are usually to be heard a few adventitious sounds at the apices, where an X-ray may show "an increase of fibrous tissue."

Of all the manifestations of early lung tuberculosis, cough is the one which most of all has to be taken in conjunction with other symptoms. No variety of cough can be regarded as pathognomonic of phthisis. In the majority of cases it is probably not the earliest symptom, but is commonly preceded by that other very usual precursor of a general illness—lack of energy or easy fatigue. Many a patient has been doomed to a sanatorium régime on this symptom alone, but more especially if associated with a slight evening rise of temperature, in the absence of further evidence of tuberculosis.

Not infrequently a medical man is consulted by parents because of the existence of this "tired feeling" in one of the daughters of the family, possibly associated with a loss of weight. A restriction in the round of gaiety and of the number of dances generally brings about a

marked change for the better. This symptom of lack of energy is also not uncommon from overwork, especially in business men, to whom the motor-car has brought, under the guise of a friendly partnership, Nature's retribution for the neglect to employ the original method of progression. Loss of weight is not found in these patients, but more often the reverse.

While common enough in early tuberculosis, other possibilities for a loss in weight must be borne in mind. Dealing as we are generally with young people, the urine may give the clue.

There is a great risk that automatically an evening temperature may be regarded as evidence of tuberculosis. It is not denied that such a sign is strongly suggestive of tuberculosis, but there are many other possibilities. For example, infection of the tonsils and sinuses is certainly not an uncommon cause of the bouts of evening fever.

Nor must the region of the body below the diaphragm be forgotten. Recently a patient was admitted to the hospital under the care of the writer on account of "pulmonary tuberculosis," which diagnosis was based on a continuous evening rise of temperature. The diagnosis could not be verified, nor as a matter of fact could an alternative suggestion be made. Previous to admission the patient had had her tonsils removed without alteration in the appearance of the chart. After careful observation the resident medical officer suggested that chronic appendicitis was the most likely cause of the evening fever. The patient was transferred to the care of a surgical colleague, and duly operated upon. The appendix was found in a state of slight chronic inflammation. A few days after the operation the temperature came down to normal, where it remained. In women it is especially advisable to keep in mind a possible tubal source for irregular fever. These gynecological conditions show even more increase of temperature with menstruation than does tuberculosis.

The possible causes of irregular fever are so numerous that it is only natural perhaps that we should frequently forget a few of them. But it would perhaps be not out of place to note that in early carcinoma irregular fever is not infrequently associated with loss of weight.

In contra-distinction to the amount of stress which is laid on the value of the temperature chart in tuberculosis the degree of attention paid to the pulse-rate seems inadequate. Particularly as a guide to the amount of exercise that a patient may safely take, and in prognosis, is the pulse-rate of importance. In the writer's experience the outlook is unfavourable in patients with a resting pulse of over 100 in the early stages of the disease, even though the other symptoms and signs, including the temperature curve, may appear to justify an optimistic forecast.

In those parts of the country where thyroid diseases are prevalent,

not an uncommon error is to diagnose pulmonary tuberculosis when the condition is actually early hyperthyroidism. There are few physicians who have not made this mistake. The languor, the rapid pulse, the rise of temperature, with perhaps a certain amount of sweating, make up a picture closely simulating tuberculosis. Only rarely are the two conditions combined.

A constant source of anxiety to all those engaged in the practice of medicine, whether in a broad or restricted sphere, is the degree of value to be attached to a history of hæmoptysis. Nothing is more terrifying to a lay person than the appearance of blood after a cough, and except perhaps for the angler's description of the size of the fish which he "just missed," no phenomenon can be more grossly exaggerated. Blood-spitting in any quantity is presumptive evidence of pulmonary tuberculosis until the contrary is proved. But can we deny that in cases of high blood-pressure, for example, a large hæmoptysis may occur, possibly from a branch of a bronchial artery? And in the absence of other signs of tuberculosis, can we dogmatically exclude hæmoptysis of the climacterium? Certain it is that every now and again we shall miss early malignant disease by forgetting this possible source of the hæmorrhage. Invasion of the lung by one of the various moulds, with all the physical signs of pulmonary tuberculosis, may be the true cause of the hæmoptysis. And every medical student is warned of the possibility of hæmoptysis in mitral disease. In small hæmoptyses—less than a drachm—we must maintain the possibility of a source other than the lung, steering a middle course between those who can visualize the leaking point in the giant-celled system at one apex and those who consider the teeth or throat responsible.

The Value of Physical Signs and X-Ray Examinations.

As regards the ordinary examination of the chest, the question arises whether we are not over-inclined to pay too much attention to inspection and too little to percussion. When we talk about wasting of the suprascapular muscles and of hollowing below the clavicle we really mean comparatively old-standing disease where fibroid processes have occurred. How far is the normal difference in expansion between the two sides recognized and how often are allowances made in consequence? An early sign of importance in the writer's opinion is the resistance felt at one apex, especially posteriorly, as if the muscle was on guard; much as happens in abdominal disease at the onset of an inflammatory lesion. Combined with this feeling of resistance, a certain amount of tenderness may be complained of by the patient. Pain in the shoulder quite often is not due to "rheumatism" or "neuritis." Frequently it is of cardiac or pulmonary origin; in the latter case not necessarily apical, but referred from the diaphragm.

No space is available to refer, except in a few sentences, to the necessity for the greatest care being exercised over X-ray pictures. If the clinician for any reason cannot be his own radiologist, then he should make a point of being present always at the screening of his patient, and should train himself to interpret the films. The adoption of any other apparently time-saving method is courting disaster sooner or later, generally sooner. It should never be forgotten that what we see on films are shadows only, which give no real clue to the nature of the morbid processes or the stage of the disease. In chest work an X-ray examination should be complementary to the use of the stethoscope and the pleximeter. It is sound policy to keep close at hand a series of X-rays of apparently normal people.

Within the limits of this article it has been obviously impossible to enter into any lengthy discussion of the various symptoms, or to attempt a critical analysis of their significance and relative value. Such will be found in any textbook devoted to tuberculosis of the lungs. What the writer has endeavoured to do has been to consider the subject from his experience of general hospital practice, and to indicate as a result of that experience some of the commoner sources of error.

Before being content with a positive diagnosis of pulmonary tuberculosis in the absence of indisputable proof of its presence, the examination of the fæces for tubercle bacilli, animal inoculation and intra- or subcutaneous tuberculin administration should not be omitted. There are many agents besides the tubercle bacillus which can give rise to fibrosis of the lungs. As far as is humanly possible, we should endeavour to maintain a balanced judgment and to make a careful assessment of all the signs and symptoms, paying due regard to the history of the case.

THE INCIDENCE OF PHTHISIS IN RELATION TO RACIAL TYPES AND SOCIAL ENVIRONMENT IN WALES.

By E. G. BOWEN,

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It has long been known that it is possible to classify the various racial and social groups of mankind according to the clinical types of tuberculosis which tend to prevail among them. The works of Cummins, Zieman, and Borrel have shown how the various native African groups tend to the simple or "natural" form of tuberculosis—an acute disease

with a tendency to a general infection throughout the body, and a short "survival period." More complex communities such as those of India and China tend to exhibit stages intermediate between the "natural" form and the more "modified" forms of the disease characteristic of Western Europe and the United States of America, where pulmonary localization is a marked feature.¹

Detailed observations in Wales, however, are tending to show that an equally interesting and important correlation can be worked out between the many racial and social groups composing the present population and the various clinical types of tuberculosis observed.

It is true that all human tuberculosis in Wales is "modified" to some extent or other, but it can be shown that alongside of regions marked by "chronic" or recrudescant cases (*i.e.*, the fully "modified" form) there are other regions where the "acute" type of the disease predominates. The latter is but little removed from the "natural" tuberculosis of simple societies. Its prevalence in Wales accounts for the high "young adult" death-rate—a feature noted by the late Dr. John Brownlee in his reports to the Medical Research Council.²

Wales offers an excellent field for research into the racial and social aspects of tuberculosis. The physical features of the country give a diversity of environmental conditions within small compass, while a detailed anthropological survey of the population has been in progress during the last twenty years under the direction of Professor H. J. Fleure, of the Department of Geography and Anthropology, University College, Aberystwyth. Furthermore, the statistics and reports of the Welsh National Memorial Association for the Prevention of Tuberculosis (since 1916) are a valuable record of the disease, while the Department of Tuberculosis of the Welsh National School of Medicine, Cardiff, under the direction of Professor S. Lyle Cummins has contributed enormously to our knowledge of the various clinical types of the disease in the Principality.

It was clearly seen from the maps published by the late Dr. John Brownlee³ that most of rural Wales—an upland region for the most part between 400 and 1,000 feet above the sea—was especially marked as a region where the "young adult" or acute form of the disease was very prevalent. This region has been shown to be one in which the short, dark, long-headed person forms the basis of the native population. In the remoter regions such as the Plynlymon country of Cardiganshire and the Black Mountains of Carmarthenshire there are some individuals, with very long, high heads, prominent cheek-bones, dark hair and eyes, and other characters which seem to suggest that they are survivals of Aurignacian man, living on in the present-day population of these regions.⁴ The people of moorland Wales have legacies of a former tribal society, whose social tie was based on kinship rather than contract. Its

members were mainly herders, and the scattered *tyddynnod* or single farms still remain the characteristic form of habitat in these regions.

The lower lands of Wales, including the northern and southern coastal strips, the extensions of the English plain on the eastern border, and some patches on the west coast, have a native population in which the tall, well-built, fair-haired, blue-eyed, long-headed Nordic person is a marked element. Most of these regions have centuries of contact either with the peoples of the English lowlands or with invaders from over the seas. The southern lowland patches normally have more sunshine and less rainfall than the moorlands, and agriculture is more important than herding, while the rural settlements are more nucleated in form. Many of the villages here show evidences of having possessed in the Middle Ages field-systems akin to those found at that time on the plains of England and the Continent.⁵ In these modern Nordic, agricultural communities, which are the successors of the medieval manor village, tuberculosis is less marked, and what disease occurs is of the "modified" or chronic type, with deaths at advanced ages.

South-eastern Wales, the region of the great coal-basin, remained but sparsely populated until well on into the nineteenth century. But with the growing importance of the Welsh coal for export purposes the deep slot-like valleys of the coalfield became densely populated. The immigrants crowded into the long straggling villages that grew up around the pit-heads in the valley-bottoms, where the overhanging moorlands and black coal-tips vie with one another in blotting out the sunlight. In less than fifty years, more than half the population of the Principality had gathered in one county. The newcomers to industrial Wales were drawn in the main from the moorlands of the surrounding counties, and they have been shown to be very largely composed of the short, dark, long-headed type, which we found to be so characteristic of upland Wales. Although this type has become the typical Welsh collier, we also find in these valleys many who show Nordic and allied characters. It is, however, somewhat surprising to find that industrial Wales is not marked by a high death-rate from "young adult" phthisis, considering that here we have such large numbers of the same physical type that we found to be so susceptible to this disease on their moorland farms, living apparently under far worse conditions in these dark, sunless valleys. What is still more interesting is that detailed examination revealed that what little tuberculosis occurs in these valleys occurs especially among the tall, fair-haired, blue-eyed Nordic stocks. In one mining village in Glamorganshire, where an anthropological investigation revealed the short, dark, long-headed person as a very marked element in the population, information was also available concerning every case of death from tuberculosis for the twenty-five years 1902-1927. An analysis of these observations showed that out of the total number of

tuberculosis deaths 54 per cent. were clear cases of Nordic types, 6 per cent. more had reddish hair and may be grouped with the Nords, while a further 15 per cent. had a partial Nordic ancestry. The remaining 25 per cent. alone showed non-Nordic characters.⁶ Thus the short, dark, long-headed Mediterranean type seems very susceptible to the acute, almost "natural" form of tuberculosis while following his shepherding life on the moorland farms, but when he comes down to the industrial areas his resistance is raised and his tuberculosis becomes of a highly modified type. The tall, fair-haired Nordic, on the other hand, is better able to resist the disease while farming in the open, sunny lowlands, and it is when he goes down to the dark, shut-in coal-valleys or the slums of large towns that his resistance falls and he becomes an easy victim of the acute form of the disease.

The preliminary investigations just discussed were followed up by the detailed study of a special region. The Cardiganshire Lead Mining Area was selected, as it had peculiar social, economic, and anthropological advantages for the purpose. The lead mines of the region had been known from early times, but mining on a very large scale began in the forties of last century and reached its maximum about 1870, and has since declined completely. Professor H. J. Fleure and his assistants in an anthropometrical survey of the region, that involved almost every family that could claim its proximate ancestry within the area, have drawn attention to the marked differences anthropologically between the northern and southern sections of this area. In the extensive moorland regions of the northern section of this mining field the short, dark, long-headed person was found to be a marked feature in the local population, together with many extremely long-headed survivals of early types of modern man in the mountain fastnesses of the Plynlymon country. South of the Ystwyth river, however, a well-built, medium-headed, fair person was a decided element in the local samples. This southern section of the mining field has more lowland than the northern section, and seems to have had access to an open and approachable section of the western coast of Wales from early times.⁷

In conjunction with Professor S. Lyle Cummins and Dr. D. Charles Lloyd (the Tuberculosis Officer for Cardiganshire) a very detailed examination was made of the epidemiology of tuberculosis in these old mining regions during the last fifty years (1876-1926).⁸ This period allowed of a study of the disease at the height of mining activity, during the slow process of decay, and after the cessation of the industry.

At the height of mining activity the northern region had a lower death-rate from phthisis than was the case in the southern region. Furthermore, it could be shown that deaths at the "young adult" stage were a marked feature of the higher death-rate of the southern section. With the gradual passing away of mining, changes took place

in the epidemiology of the disease in both regions. On the cold uplands of the north those who did not move to other areas turned to a reliance on sheep farming with subsidiary woollen manufacture. In the scattered farms the tuberculosis death-rate increased—first among the females and then among the males. At the same time (1880-1910) the mortality rate from phthisis in the southern region continued to fall as the region came to rely more and more on agriculture and mixed farming. The graphs were not uniform, but the exceptions noted seem to coincide with the stages in the decay of mining. In the fairly large agricultural villages there were fewer cases of acute tuberculosis, the "survival period" lengthened, and there were general indications that the disease was approaching the "modified" type.

There were many secondary features resulting from this study which have been discussed at length elsewhere,⁹ but in the main this very detailed investigation showed that a region with a markedly long-headed, dark population survived the bad conditions of industry with less acute tuberculosis than was the case in another region of the same mining field which had many more fair people in its population. The geographical conditions in the northern section restricted the folk who remained behind after mining operations ceased to sheep farming, with its attendant poverty and scattered habitat. Under these new conditions the acute form of the disease became more marked, and "young adult" deaths more numerous.

The conditions in the south of the mining field allowed of more mixed and less purely pastoral farming, and so, when some of the fair folk of these parts took to an agricultural life from the dark, damp mines, less cases were noted, in time, of acute tuberculosis, and the cases of chronic disease survived for many years. The relationship between racial types, geographical and social environment, and tuberculosis noted in this Cardiganshire mining area is too closely allied to that noted for Wales as a whole to be considered accidental.

It seems as if the body of the tall, fair-haired Nordic type has been built to ensure the emission of a large amount of heat, and so this type is capable of a large amount of work. He has evolved among the horsemen of the northern steppe lands of the Old World, and his body and mental build seem more suited to open-air rural life than to urban or industrial conditions. On the other hand, the short, dark, long-headed, Mediterranean type is built for less emission of heat, and has often less physical energy as well. The short, dark, long head, indeed, is more acquiescent, less full of physical initiative, than the tall, fair man; he favours the chapel rather than the hunting field. On the moorlands of Wales this short, dark, long head thus readily acquiesces in poor feeding, and in regions socially depressed by the decay of mining, as in North Cardiganshire, his lot is a very bad one. But in the industrial

regions this type gets good food of a kind with easy access, and while vigorous exercise and sunlight seem not so important for him as for the fair types, his resistance to tuberculosis becomes more marked.

Associated with the study of racial factors we could discuss in greater detail the importance of diet, hygiene, sunlight, occupation, etc., in their bearing on the disease, and suggest also that life in the nucleated farming villages offers more frequent opportunities for transitory contact with infection outside the home, and consequently better chances of augmented resistance than is the case among the scattered homesteads of the moorlands;¹⁰ but it must be remembered that, considered severally, all these factors are, like tuberculosis itself, but phases of the law of the adaptation of individuals and groups to their environment.

It is by the advance of regional survey of the adaptation of racial and social groups to their environment—physical, human, and bacterial—in its evolutionary aspect, both within the region and elsewhere, that further progress in the study of the epidemiology of phthisis may be made. Such surveys, even of small and, perhaps, sparsely populated regions, will greatly help an anti-tuberculosis campaign.

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HELIO THERAPY—EMPIRICAL OR SCIENTIFIC?

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In the treatment of rickets the use of ultra-violet light is well founded in scientific observations and experiments. The precise limits of useful wave length have been determined. Definite and constant results are

revealed by blood analysis. Light is a specific remedy that can be relied upon to give results.

In the treatment of tuberculosis the use of light has not advanced to this scientific stage. Blood analysis before and after the use of light fails to reveal any constant effect. Basal metabolism may doubtless be increased by the use of sun baths, but it is doubtful whether this effect can be brought about by the use of light alone. The question arises as to how much of the remarkable success achieved by Rollier in Switzerland, by Gauvain in England, by Lo Grasso in the United States, is due to air bath and how much to the sun. Clinical successes with the mercury vapour lamp under indoor conditions make one hesitate to rule out altogether the influence of light.

Faced with this uncertain situation the scientific investigator must patiently measure the factors involved. A large number of measurements has in fact been made, but strangely enough they are measurements almost exclusively of effects. One searches almost in vain for any records of measurements of those influences that have produced the effects. We are thus in the position of accumulating a number of equations, involving several unknowns, multiplied by factors of whose magnitude we are in complete ignorance. To be more specific, every sun bath involves at least three therapeutic agents: (1) light, (2) radiant heat, (3) the cooling power of moving air. Each of these agents is capable of exact measurement, yet none of them are measured.

Failure to measure the dosage of light used is the more remarkable since, in the treatment of pulmonary tuberculosis at least, an overdose is quite generally accepted to be a very dangerous thing. It is reasonably probable that some of the ill effects attributed to excessive light are really due to overheating; but as no measurements are taken of either light energy or heat energy it would be absurd to dogmatize on this point. It is true that rules have been laid down governing the time of exposure to the sun's rays and the amount of skin surface to be exposed. However, so long as the solar energy is left out of account, these rules provide only the crudest system of dosage. It is as though one were instructed to make up a solution of arsphenamine for the treatment of syphilis and advised not to inject more than six ounces at a time, the strength of the solution being left entirely out of account! It is easy to see that under such a system there would be conflicting opinions both as to the toxicity of the drug and as to its value as a therapeutic agent.

Why has the measurement of light energy been so much neglected? Two explanations suggest themselves. In the first place it is perhaps not generally realized to what an extent the light energy in the sun's rays varies from hour to hour, from day to day, from one season to another, according to altitude, to latitude, and to various atmo-

spheric conditions. Here at Boulder in Colorado the writer has made a number of observations, both at different hours of the day and also daily, whenever the sun has shone, throughout nine months of the year. It is no uncommon thing to find that between seven and eight in the morning the ultra-violet energy in the sunlight has doubled; by ten o'clock it has probably doubled again; by eleven o'clock it may even have doubled again. During the afternoon the decline in solar energy may be as rapid as was the increase during the morning. Thus a dosage that increases by five minutes daily is a much more rapid increase if the bath begins regularly at ten in the morning than if it begins regularly at two in the afternoon. The changes in solar energy from day to day are less rapid, and yet a change of 20 per cent. is no uncommon thing even in Boulder, where marked changes in humidity are rare, and smoke is practically unknown. In summer the midday sun has about three times as much ultra-violet energy here as it has in winter. At sea-level the difference between summer and winter sunlight is much greater. Examples could be multiplied. Enough have been given to show that the time of exposure alone is not an adequate measure of the dosage of light.

The second explanation of the failure of clinicians to measure light energy is that apparatus for making the measurements have been complicated or unduly expensive. The photo-electric cell has some advantages, especially in being able to measure a large range of the solar spectrum or a small selected range according to the light filters employed. However, the photo-chemical method devised by Clark¹ has the advantage of extreme simplicity, and is quite accurate enough for all practical purposes. This method has recently been improved by Dr. Clark, who has substituted high temperature zinc sulphide for the lithopone used in the original method. A detailed description of the new method is to appear very shortly in the *American Journal of Hygiene*. May we venture to hope that its publication will lead to a definite standardization of dosage in heliotherapy and a new scientific era in this interesting branch of medicine?

¹ See the *American Journal of Physiology*, June, 1924, p. 200.

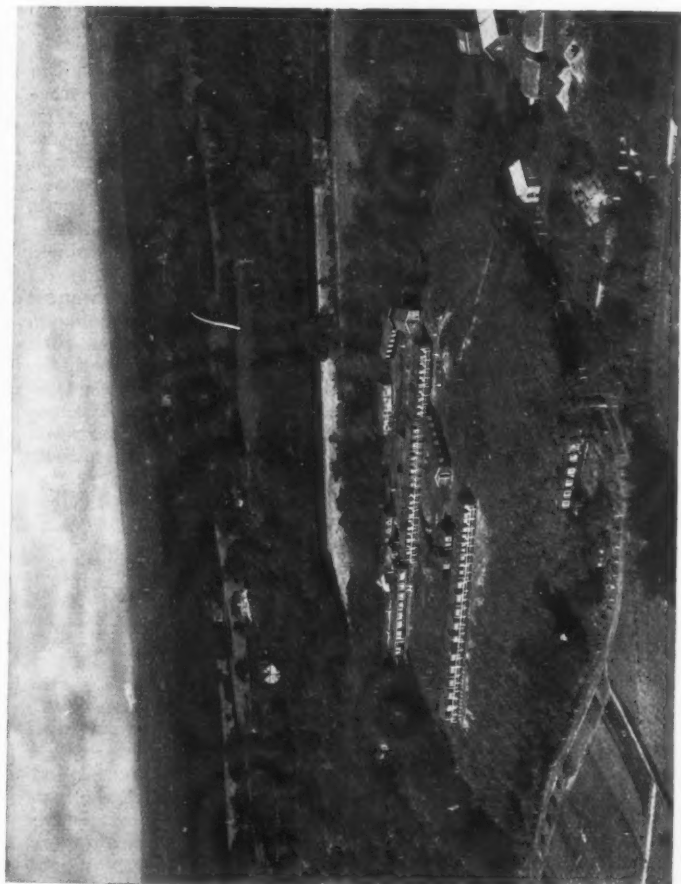
ASSOCIATIONS AND INSTITUTIONS.

BURROW HILL SANATORIUM COLONY,
FRIMLEY, SURREY.

WE have received the following communication regarding the Burrow Hill Sanatorium Colony from Miss F. Strickland, Secretary of the National Association for the Prevention of Tuberculosis, 1, Gordon Square, W.C. 1, from whom further particulars may be obtained on application.

The future of the tuberculous youth has received insufficient attention in the past. The difficulties in the way have been great. There has been a natural tendency to concentrate on measures directed solely to the medical treatment of the patient. In favourable cases the result has been that the youth is cured of his tuberculosis, but is in no condition to earn his own living: he has lost the start in life which he would have obtained if his health had been normal and begins the battle of life severely handicapped. A wider knowledge of medicine has taught us that education, both scholastic and technical, can be given to suitable patients along with skilled treatment of their disease. Indeed, the combination is mutually advantageous. For educational work under medical supervision and adapted to the patient's rate of progress towards health gives him another interest in life and contributes towards his recovery. The number of tuberculous youths in any county or county borough area is, however, generally speaking, too limited to permit of specialized instructional provision being made locally if due regard is paid to economy. In these circumstances the National Association for the Prevention of Tuberculosis, with the approval of the Ministry of Health, have determined to adapt their Sanatorium Colony at Burrow Hill so as to render it available to all local authorities throughout the country who desire to utilize it for the long-period treatment and technical education of suitable youths between the ages of fourteen and nineteen. The Institution contains eighty beds, sixty of which are provided for arrested case, and twenty in a specially designed block for patients in the earlier stages of the disease. It is primarily intended for youths suffering from pulmonary tuberculosis in whom permanent arrest of the disease is ultimately likely to be secured, and who are in need of, and temperamentally fitted for technical education, but cases of glandular tuberculosis without sinuses, or of tuberculous disease of bones and joints no longer requiring active orthopædic treatment, will also be eligible for admission. Technical education will form an essential part of the régime, and it follows that only those who are physically and temperamentally suitable for technical education can be dealt with. This does not imply that only youths who have reached a high standard of elementary education will be suitable. It is fully recognized that the disease has not infrequently curtailed attendance at public elementary schools; ac-

cordingly a certain amount of elementary education will be included in the course when circumstances render this desirable in order that the youth may profit from the more technical education. It is proposed to give technical education in two subjects, viz., gardening and clerical



THE BURROW HILL SANATORIUM COLONY, FRIMLEY, SURREY.

This aerial photograph gives a general view of the colony and the surrounding country.

work. In selecting these courses of education, careful consideration has been given to the needs of youths from both urban and rural areas.

The gardening course should not only enable youths to qualify for positions as "improvers" in large gardens, but should also fit them to act as assistants to town gardeners. A sound preliminary course of instruction in clerical work and business methods should enable youths to make a good start in a business career. Admission to Burrow Hill

will, as already stated, be limited to youths whose ages range from fourteen to nineteen years, and the duration of stay aimed at should be one year or longer. It is understood that they will come provided with adequate clothing in accordance with the list furnished to applicants for admission. A small sum will be given to each youth weekly as pocket money. The cost of maintenance will be 50s. per week inclusive.

The proposed curriculum of technical education is as follows:

1. *Gardening*.—The curriculum in garden work will deal with the types of soil and their treatment, the cultivation of vegetables, herbaceous and bedding plants, ornamental trees and shrubs, the propagation, culture and treatment of fruit, the recognition and treatment of insect pests and fungoid diseases, the principles of ornamental and landscape gardening and the general management of frames and glasshouses. Carpentry, incidental to garden work, will also be included in this course.

2. *Clerical Work*.—This will include: (a) The elementary principles of book-keeping; (b) Shorthand; (c) Typewriting; (d) Business methods, commercial correspondence and office routine.

3. *General Education*.—(a) English (including the study of literature); (b) History; (c) Economic geography; (d) Arithmetic.

This course of instruction will permit youths to continue their general education during their period of residence. Whilst this is regarded as desirable for youths in either course, it must be considered essential for those engaged in clerical work in order that they may derive full benefit from the technical education. Applications for admission should be sent to the Medical Superintendent, Burrow Hill Sanatorium Colony, Frimley, Surrey.

In the January and April issues of this JOURNAL we published an advertisement of the Palace Hotel Sanatorium, in which the name of Dr. Hilary Roche appeared as Medical Superintendent. This advertisement appeared in error, Dr. Roche having left this establishment in December last to take over the British Sanatorium at Montana. We apologize for any inconvenience this mistake has caused him.

NOTICES OF BOOKS.

SURGICAL MANAGEMENT OF PULMONARY
TUBERCULOSIS.

DR. HANNS ALEXANDER has prepared a small practical volume on the surgical treatment of pulmonary tuberculosis.¹ The subject is discussed under four main headings: artificial pneumothorax, thoracoplasty, phrenic nerve avulsion, and apicolysis. The general indications, contra-indications, and complications of pneumothorax treatment are set out very clearly, and it is noted that Jacobæus's cauterization is not recommended on account of the complications such as effusion or empyema; the liability for lung tissue to be present in the adhesions is emphasized. In the discussion on the complications of pneumothorax, surgical emphysema, mediastinal hernia, gas embolism, and secondary exudates come under review; the occurrence of reflex pleural shock is doubted. The indications for induction of pneumothorax are those generally adopted, and call for no comment. Absolute contra-indications are spondylitis, bilateral tuberculous nephritis, intestinal tuberculosis, emphysema and asthma, severe diabetes, severe heart failure due to a cardiac or renal disease. The duration of treatment cannot be controlled by rule, but will require one and a half to two years at least, and three to four years may be necessary. Owing to the possibilities of complications, however, the treatment should not be carried out for longer than is absolutely necessary. Bilateral pneumothorax has not justified itself in the author's hands. The indications for thoracoplasty are given as: (1) advanced progressive disease of one lung; (2) fairly severe long-standing disease of one lung, if the disease is not arrested by continued and adequate treatment; (3) moderately severe disease, with repeated hæmoptysis; (4) severe stationary cases where the clearly mechanical possibilities of healing are exhausted and in which social indications—*i.e.*, necessity to gain a livelihood—are present. In all these cases pneumothorax treatment has been attempted but failed. The technique of operation is not considered, but the question of a single or two-stage operation is decided where possible in favour of the former, owing to the greater degree of collapse produced. Two illustrations confirm this, but it should be observed that the interval between operations is twenty days, whereas, where possible, fourteen days is almost invariably sufficient in the reviewer's opinion. The section on phrenic avulsion points out the value from the two accepted results, pulmonary rest and localized collapse, and its value for lesions high up in the lung is indicated. By this operation alone cures are uncommon, but its value in combination with pneumothorax and thoracoplasty is

¹ "Was muss der praktische Arzt von der Chirurgischen Behandlung der Lungentuberkulose wissen?" By Dr. med. Hanns Alexander, Agra. Pp. 60, with 28 illustrations and X-rays. München: J. F. Lehmanns Verlag, Paul-Heyse Strasse 26. 1926. Price Kart Mk. 3, Gebd. Mk. 4.20.

confirmed. Apicolysis with paraffin plugging is not regarded with much favour. Dr. Alexander's handbook provides a most readable and clear exposition of the surgical treatment of pulmonary tuberculosis. Although it contains nothing new, it is a well-balanced description of those means of treatment which have been proved to be of permanent advantage in certain cases of pulmonary tuberculosis, and can be strongly recommended to those interested in the modern therapy, which has become more widely recognized on the Continent than it has in this country.

A. TUDOR EDWARDS, F.R.C.S.

OLEOTHORAX IN TUBERCULOSIS.

Dr. Fontaine, of the Laennec Hospital, Paris, has written a monograph which not only gives an excellent account of the indications and contra-indications for therapeutic oleothorax, but also provides adequate descriptions of the technique, reactions, and complications, together with detailed observations on many cases treated by this method.¹ The author describes most admirably the types of effusion that may occur in the course of an artificial pneumothorax. Without a definite classification of these pleural exudates and a precise appreciation of their significance and prognosis, the treatment of oleothorax cannot be applied intelligently or effectively. Oleothorax has a strictly limited but definite value. It is not, as a rule, a substitute for artificial pneumothorax, but an adjunct to it. In some cases the use may be indicated without artificial pneumothorax. These indications, according to Dr. Fontaine, are as follows: In chronic tuberculous purulent effusions producing fever, either primary or secondary to artificial pneumothorax; in small pulmonary perforations which persist, or are accompanied by, a purulent effusion; and in cases of obliterative pleurisy. Its use is tentatively suggested in serous effusions occurring in an artificial pneumothorax, if such cases are accompanied by fever or malaise; in certain cases of inefficient artificial pneumothorax; in exceptional circumstances as a substitute for artificial pneumothorax; and sometimes as a preparatory procedure when immediate thoracoplasty would not be justified by reason of the patient's condition. The oil used is olive oil or paraffin oil, with about 5 per cent. oil of gomenol, gomenol being an antiseptic essential oil somewhat similar to eucalyptus. Paraffin oil is much more slowly absorbed than olive oil, and the author suggests tentatively that the former is indicated when permanence is desired and the latter in purulent effusion, the more rapid absorption of the oil liberating greater quantities of the contained antiseptic. With careful precautions there is little or no risk of any serious reaction or complication. The method has proved itself of value. Dr. Jacqueline Fontaine has done good service in presenting the present state of knowledge on the subject in so attractive a manner.

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¹ "L'Oléothorax: Indications, Technique et Résultats." Par Jacqueline Fontaine, Assistant dans Physiologie, Hôpital Laennec, Paris. Preface du Docteur E. Rist. Pp. 300, avec 8 planches hors texte. Paris: Gaston Doin et Cie, 8, Place de l'Odéon. 1929. Prix 30 frs.

NUTRITIONAL PROBLEMS IN PULMONARY TUBERCULOSIS.

Dr. Monceaux has written a somewhat formidable book on nutritional trouble in cases of pulmonary tuberculosis.¹ It is provided with a very complete bibliography. The author's own observations on the subject have been made over a period exceeding ten years. It is a pity that the book does not contain more records regarding his own observations. The book seems to have been written mainly to discredit the views of Robin and his school, who held that there was an invariable acceleration of metabolism in tuberculosis. According to Robin, the two essential factors of the tuberculous soil are (a) speeding up of all nutritive exchanges, and (b) demineralization. The author sets out to prove that not only is there no speeding up, but that there is a definite slowing down of the nutritive exchanges in all forms of tuberculosis. He goes into questions relating to the utilization of protein, fat, and carbohydrates in detail, and claims that neither protein nor fat is properly utilized, owing to insufficiency of oxygen and hepatic dysfunction. Though his arguments are far from conclusive, they contain much of incidental interest; in particular, the intermediate steps of protein and fat metabolism are very lucidly dealt with. The best part of the book is undoubtedly the chapter on hepatic function, the tests *intra-vitam* being correlated with *post-mortem* findings, and accompanying illustrations showing fatty degeneration and cirrhotic changes. On the vexed question of demineralization or mineral metabolism in tuberculosis the author's own work seems to throw very little light, the statement that Robin's claims of demineralization were founded on inaccurate work being merely countered by reference to other work, which is no more conclusive. The book impresses one with the author's sound knowledge of biochemistry, and one leaves it with the feeling that it is a great pity that this knowledge and all this patient work should not have been used to better purpose. Closer co-operation with the clinician might have prevented the author from setting up yet another hypothesis to explain all the phenomena which occur in tuberculosis. The disease is nevertheless far too protean to conform to any single hypothesis, however ingenious.

J. F. HALLS DALLY, M.D.

THE PREVENTION OF TUBERCULOSIS.

"Our methods of dealing with the problem of tuberculosis in England have signally failed to realize the results anticipated at their inception and the eradication of the disease is well nigh at a standstill." With this startling declaration Dr. W. Bolton Tomson opens his new and thought-compelling work on methods for the prevention of tuberculosis.² It is a book which must be read by every tuberculosis officer

¹ "Troubles des Échanges Nutritifs dans la Tuberculose Pulmonaire." Par R. Monceaux, Docteur-ès-Sciences, Lauréat de l'Académie de Médecine, Chef de Laboratoire à l'Hôpital Cochin. Pp. 446 avec 12 figures dont 8 hors texte en couleurs. Saint-Cloud: Girault, 3, Place de l'Eglise. 1929.

² "Some Methods for the Prevention of Tuberculosis." By W. Bolton Tomson, M.D., Medical Superintendent of the "Sea View" Sanatorium, St. Leonards-on-Sea, etc. Pp. xiii+148, with three plates and coloured illustration on cover. London: Baillière, Tindall and Cox. 1929. Price 6s.

and all doctors and laymen interested in the tuberculosis problem. Dr. Tomson has for years devoted special study to his subject, and as chairman of the Tuberculosis Care Committee for Hastings, has had exceptional opportunities for considering questions of organization and administration, and medico-sociological and human factors as they are related to practical efforts dealing with our national scourge. The preface alone contains much material for discussion. The author says: "Many go so far as to affirm that the slow decline in the mortality from tuberculosis is due to the immunity that Nature is gradually conferring on our race, and partly to the fact that the *Bacillus tuberculosis* is losing its virulence. . . . There are those who think that too much is spent on treatment and too little on preventive measures." Dr. Tomson's work is not only timely but thoroughly practical, for he provides an admirable survey of the various means which at home and abroad have proved of real service in combating tuberculosis. The work is divided into two parts: the first deals with the Systems of the *Œuvre Grancher* and *Placement Familial des Tout-Petits* which have worked well in France, and measures approved in Belgium, Switzerland, Norway, Sweden and America. The second under the general designation of Immunization contains chapters on Tuberculosis Village Settlements, Methods Advocated in England for the Prophylaxis of Tuberculosis in Childhood, The Grancher System as Practised in England and the Home Hospital Scheme. The author also gives an interesting account of the experiment in house reconditioning which is being carried out at Hastings. Dr. Tomson's illuminating volume should receive unbiased consideration by the Ministry of Health and all authorities dealing with the tuberculosis problem. It is certainly a book which no tuberculosis officer can afford to neglect. It may be hoped that Dr. Tomson will continue his study of anti-tuberculosis methods in other countries and that he will expand his book to include a complete description and criticism of existing tuberculosis organization and administration in this country, which in spite of large staffs, an enormous expenditure of money and much honest effort on the part of medical superintendents of sanatoria, tuberculosis officers and voluntary workers, is accomplishing so little in securing the prevention and arrest of tuberculosis.

CONTINENTAL WORKS ON TUBERCULOSIS.

German and other continental works on tuberculosis continue to appear in large numbers. Brief reference may be made to certain monographs which have recently reached us.

Of recent years German physicians have devoted considerable attention to the important subject of pulmonary tuberculosis in children. The works of Simon and Redeker, Kleinschmidt, Much, and others have assembled clinical experience, and X-ray investigation has aided and interpreted it. We are beginning first to realize that a diagnosis of juvenile pulmonary tuberculosis does not of necessity spell the child's death-warrant; and secondly that many obscure conditions in children, regarded formerly as febriculæ, anæmia, debility, or bronchitis, are in reality manifestations of pulmonary tuberculosis. Dr. Georg Simon has published the results of a study of open tuber-

culosis of the lungs in children of school age.¹ He shows that something in the way of remedial measures can be done for a condition which in the past has been regarded as practically hopeless. His figures relating to the results of treatment of 445 cases of pulmonary tuberculosis in children, all with tubercle bacilli in the sputum, are as follows:

Dead	339 = 85 per cent.	} 100 per cent.
Healed	30 = 7.5 "	
Ill	30 = 7.5 "	
Lost sight of	46 = 7.5 "	

445 children.

That in 7.5 per cent. of cases the lesion may be healed will come as somewhat of a revelation to many physicians. These favourable results have been secured by the induction of artificial pneumothorax, a method of treatment to which Dr. Simon rightly attaches great importance. He classifies the cases under his care, and gives the indications for treatment in his useful monograph, which is well illustrated by X-ray photographs.

A. S. M.

How often does the physician faced with an X-ray film of the thorax of one of his child patients desire comparison with the picture of a normal child's chest in order that he may appreciate the presence of departures from normality. This need is fully supplied in the excellent medical atlas by Dr. Erich Saupe and Dr. Kurt Ehle.² Their account of the anatomy and X-ray appearances of the normal child's chest is illustrated by a set of well-produced X-ray pictures. Reference to this book will considerably lighten the task of both physician and radiologist in expressing an opinion on a case of juvenile pulmonary disease.

A. S. M.

The word "tuberculosis" or "consumption" is of ill-omened significance to the layman. A child labelled with this diagnosis is regarded as doomed to an early death or is shunned by its fellows as a pariah. Dr. Kurt Klare's well-written little pamphlet is an attempt to educate the laity to adopt more reasonable views and to show that tuberculous infection in a child, while calling for hygienic care and treatment, has not necessarily the grave significance of tuberculous disease.³

A. S. M.

A salt-free diet for the treatment of tuberculosis has had some vogue

¹ "Die offene Lungentuberkulose des Schulalters (Verlauf, Entwicklung, Kollapsbehandlung)" ["Open Tuberculosis of the Lungs in School Age (Course, Development, Collapse Treatment)"]. Tuberkulose-Bibliothek. Edited by Professor Dr. Lydia Rabinowitsch. No. 31. By Dr. Georg Simon. Pp. 107, with 60 illustrations and a chart in the text. Leipzig: J. A. Barth, Salomonstrasse, 188. 1928. Price, Rm. 9.75.

² "Das Thoraxröntgenbild des normalen Säuglings" (Lehmanns Medizinische Atlanten, Band 17) ["The X-ray Appearances of the Thorax in Normal Infants" (Lehmanns' Medical Atlases, Part 17)]. By Privatdozent Dr. Erich Saupe and Dr. Kurt Ehle. Pp. 41, with 16 plates and 10 illustrations in the text. Munich: J. F. Lehmanns, Paul-Heyse-Strasse, 26. 1929. Price, Rm. 8 (bound).

³ "Was sollte der Laie von der Kinder-Tuberkulose wissen?" (Kurze Mahnworte) ["What should the Layman know about Tuberculosis in Children?" (A short admonition)]. By Dr. Kurt Klare, Director of the Prinzregent Liutpold Kinderheilstätte Scheidegg. Pp. 16, with 2 illustrations in the text. Leipzig: C. Kabitsch, Salomonstrasse, 188. 1929. Price, Rm. 60.

in Germany in recent years. The pamphlets which lie before us are eulogistic on the subject.¹ In the first are quoted cases of arrest of pulmonary tuberculosis after being placed on the diet, with X-ray evidence in support thereof. It must be remembered, however, that many of the patients also underwent hospital and hygienic treatment and the diet prescribed is nutritious as well as salt-free. Any British physician wishing to try the effects of this diet will find full guidance in the second pamphlet, which has a foreword by Professor Sauerbruch.

A. S. M.

Tuberculosis officers and all other specialists should make a point of reading through every year some up-to-date general work on the principles and practice of medicine if they desire to maintain a wide and serviceable outlook on the problems of disease. And no better work for the busy doctor can be recommended than the new textbook edited by Dr. J. J. Conybeare, assisted by such able coadjutors as Drs. W. H. Craig, G. B. Dowling, E. H. R. Harries, A. Maitland-Jones, V. E. Lloyd, H. Maclean, G. Marshall, T. Owen, and F. M. R. Walshe.² The purpose of the work is to provide a comprehensive survey of the essentials of medicine in a form which shall be helpful to senior students and practitioners engaged in clinical work. Dr. Conybeare is to be congratulated on the excellence of his team of contributors, each of whom has provided one or more authoritative sections in accord with the general purpose. There are admirably condensed sections dealing with tuberculosis, general and involving various parts of the body. The illustrations are few, but there is an effective index, and the whole work is produced in a form worthy of the house of Livingstone.

Mr. Clement E. Shattock's new manual on Surgical Diagnosis is a work which, while intended primarily as a guide to differential diagnosis for the senior student and practitioner, will be of value to all who have to deal with surgical cases.³ It is effectively arranged in forty-six concise sections, giving salient features regarding the morbid anatomy of certain diseases, a knowledge of which is essential for accurate diagnosis, together with succinct, lucidly expressed, serviceable descriptions of morbid conditions the subjects of which are likely to seek surgical advice. The work is admirably arranged, and by means of special types and wise paragraphing the subject-matter is presented in a particularly appealing and helpful form. There are also a number of instructive illustrations. Mr. Shattock has produced a work which only needs to be known to be appreciated. It is certain to become popular among students preparing for surgical examinations.

¹ (1) "Ergebnisse kochsalzfreier Ernährung bei Lungentuberkulose" ["Results of a Salt-free Diet in Tuberculosis of the Lungs"]. By G. Baer, A. Hermannsdorfer, and H. Kausch. Pp. 43, with 29 illustrations. Munich: J. Lehmanns, Paul-Heyse-Strasse, 26. 1929. Price, 2 Marks.

(2) "Praktische Anleitung zur kochsalzfreien Ernährung Tuberkulöser" ["Practical Instruction on Salt-free Diet for Tuberculous Patients"]. By Mimicia and Adolf Hermannsdorfer. Pp. 49. Leipzig: J. A. Barth, Salomonstrasse, 188. 1929.

² "A Textbook of Medicine." Edited by J. J. Conybeare, M.C., M.D. (Oxon), F.R.C.P., Assistant Physician to Guy's Hospital. Pp. xv+976, with 16 figures. Edinburgh: E. and S. Livingstone, 16 and 17, Teviot Place. 1929. Price 22s. 6d.

³ "Handbook of Surgical Diagnosis." By Clement E. Shattock, M.D., M.S. (Lond.), F.R.C.S., Surgeon to the Royal Free Hospital, Paddington Green Children's Hospital, and to Mount Vernon Hospital, etc. Pp. 678. Edinburgh: E. and S. Livingstone, 16 and 17, Teviot Place. 1929. Price 15s.

The publishers have issued the book in a convenient and excellent form, admirably got up, and printed on good paper in clear type.

Mr. Aleck W. Bourne has just issued a new and fourth edition of his excellent "Synopsis of Midwifery and Gynæcology."¹ The work has been fully revised and such new matter as is generally approved has been added. The synoptic arrangement which has proved so popular in previous editions is retained. The book is intended to serve as a supplement to and not as a substitute for ordinary textbooks: it forms an ideal condensation and reminder for the busy practitioner and especially for the senior student anticipating the tests of examinations. There are sections dealing with tuberculous diseases of the genital organs. By skilful compression of matter, effective arrangement in paragraphs, the use of different types and a generous array of instructive simple illustrations, this manual provides a unique volume which will be invaluable to senior students and young practitioners. This new edition will increase the popularity of a much approved member of Messrs. Wright and Sons' serviceable series of synoptic handbooks.

Mr. Harold Barwell has issued a third edition of his excellent manual on the Diseases of the Larynx.² The work appeared first in 1907, and was followed in 1910 by a second edition, but for a considerable time the book has been out of print. Now it is republished completely revised, and indeed in a great measure rewritten, and so brought up-to-date. It is an ideal introduction to laryngology, a clear, concise, thoroughly reliable and serviceable handbook for the general physician and surgeon as well as the senior student. The author's instructive drawings add greatly to its value. There are thirteen chapters, in which essentials relating to anatomy, examination, diseases, and methods of treatment are all lucidly described. The chapter on Tuberculosis of the Larynx is a model study of practically all that the practitioner need know on the subject; ætiology, pathology, symptomatology, diagnosis, treatment, and prognosis are each succinctly dealt with. There are numerous instructive illustrations indicating the various forms met with in laryngeal tuberculosis. A section is devoted to laryngeal lupus. Tuberculosis officers and medical superintendents of sanatoria should study Mr. Barwell's admirable book, for every case of pulmonary tuberculosis should be submitted to a thorough laryngoscopical examination. The general practitioner, on whom devolves the responsibility of carrying out much of the routine treatment in disorders and diseases of the larynx, will be grateful to the author for his appendix, which contains a series of valuable formulæ. The book is admirably produced, such as we expect from the Oxford University Press.

Dr. Knyvett Gordon's book on "Systemic Infections" is an

¹ "Synopsis of Midwifery and Gynæcology." By Aleck W. Bourne, B.A., M.B., B.Ch. (Camb.), F.R.C.S. (Eng.), Senior Obstetric Surgeon, Queen Charlotte's Hospital, London; Obstetric Surgeon to out-patients, St. Mary's Hospital, London, etc. Fourth Edition, pp. vii+434 with 171 figures. Bristol: John Wright and Sons Ltd. 1929. Price 15s.

² "Diseases of the Larynx, including those of the Trachea, Larger Bronchi, and Esophagus." By Harold Barwell, M.B., F.R.C.S., Consulting Surgeon for Diseases of the Throat and Ear to St. George's Hospital, etc. Third edition. Pp. xv+278, with 112 figures. London: Humphrey Milford, Oxford University Press. 1928. Price 12s. 6d.

attempt to correlate the clinical signs and symptoms of infective disease with pathology and treatment, and is intended primarily to be of assistance to those engaged in general medical practice.¹ The work furnishes in a concise, lucid, and serviceable form directions for the collection of material and conduct of pathological tests; and then follow clinical notes regarding the various forms of infection involving the various parts of the body. In an appendix a summary is given in tabular form of the chief tests employed and the purposes for which they are applied. Although the acute special fevers, syphilis, malaria, and tuberculosis are not definitely dealt with, and discussion on the technique of tests is included only when required to elucidate methods for the collection of material, the work is one which will well repay the study of tuberculosis officers and medical superintendents of sanatoria. They should certainly consider the advice given in the chapter devoted to the Respiratory Tract. It is definitely stated that "if active tuberculosis is present, vaccines prepared from associated organisms are almost always useless and not seldom harmful," and that "all observers are in agreement in condemning its use (tuberculin) except in carefully selected cases of the quiescent type; even then great skill and experience on the part of the administrator are essential." The book contains a short but useful bibliography.

"The Common Cold" still remains an unsolved mystery, and for most of us a recurring misery. In spite of all endeavours to explain its causation and to prevent and arrest its development, people still continue to suffer distress and loss through the incidence of the common cold. Professor Leonard Hill and Mr. Mark Clement have co-operated in producing a work which will be read with interest by doctors and non-medicals, for it sets out in popular, readily understood language practically all that can be said regarding our knowledge of the common cold.² The book opens with a serviceable presentation of anatomical, physiological, and psychological matters, and then follows a chapter surveying causal factors. In the chapter on disabilities, non-contagious colds, catarrhs, influenza, pneumonia, bronchitis, rheumatism, chilblains, and tuberculosis receive consideration. The most practical and helpful portions of the work are contained in the last two chapters, which are devoted to a consideration of preventive measures and treatment, and here appear many valuable suggestions which deserve the consideration of all medical advisers, and particularly those engaged in public health services. The work certainly merits the study of all tuberculosis officers.

Dr. C. W. Saleeby's work "Sunlight and Health" is now in its fourth edition.³ While the main portion remains substantially in its original form as issued in 1923, the author has added a new preface to

¹ "Systemic Infections: Their Diagnosis and Treatment." By A. Knyvett Gordon, M.B., B.C., B.A. (Cantab.), Medical Superintendent of the Virol Pathological Research Laboratory, etc. Pp. ix + 176, with 5 figures. London: Baillière, Tindall and Cox. 1928. Price 10s. 6d.

² "Common Colds: Causes and Preventive Measures." By Leonard Hill, M.B., F.R.S., Hon. A.R.I.B.A., Fellow of University College, London; and Mark Clement. Pp. viii + 126, with 9 figures. London: William Heinemann (Medical Books), Ltd. 1929. Price 7s. 6d.

³ "Sunlight and Health." By C. W. Saleeby, M.D., Ch.B., F.Z.S., F.R.S.E., Chairman of the Sunlight League. With an Introduction by the late Sir William M. Bayliss, M.A., D.Sc., F.R.S. Fourth edition. Pp. xxx + 178. London: Nisbet and Co., Ltd., 22, Berners Street, W. 1. 1929. Price 5s.

the latest edition, in which he surveys some of the more important evidences of progress in our application of new truths relating to sunlight and health. Reference is made to the systematic radiation of foods; the development of appliances for making use of ultra-violet radiation in hospitals and elsewhere for the sick, and as a prophylactic agent in hygienic provision for night nurses; and the employment of vitaglass in the Zoo and in schools. Dr. Saleeby ably urges the need for smoke abatement and the multiplication of open spaces, especially as playgrounds for the children of the poor. Particulars are also provided regarding the aims and work of the Sunlight League. Dr. Saleeby's book contains material which will be helpful to medical officers of health, tuberculosis officers, and all others engaged in health propaganda.

Dr. Ernest Ward, now tuberculosis officer for a considerable section of the glorious county of Devon, has the virile mind of a pioneer and leader. He has been engaged as a scientific investigator and explorer in various activities connected with the healing of afflicted mankind, and throughout his professional life has maintained a courageous independence in thought and action, and found free course for the display of human kindness to all sorts and conditions of troubled souls and bodies. Dr. Ward's many friends will welcome the appealing volume in which he sets forth much of autobiographical interest, together with material of scientific, professional, and personal value.¹ The volume consists of thirty-five chapters, and includes communications dealing with tuberculous glands of the neck, erythema nodosum and tuberculosis, tuberculous arthritis, minor tuberculosis, and tuberculous work in Britain. The last is an excellent survey prepared originally for the International Tuberculosis Congress number of the *Journal of the National Tuberculosis Association of America*. It contains a suggestive section on "Guarding against the Dangers of an Official Tuberculosis Service."

Dr. Daukes, the Director of the Wellcome Museum of Medical Science, has elaborated his Cambridge M.D. Thesis into a fine exposition of the place which the Medical Museum may and should take in visual teaching.² He furnishes details regarding all points which must receive consideration in the development of such a centre, and provides an admirable bibliography. The volume is handsomely produced, and is illustrated by a series of forty-five plates of typical sections and exhibits in the Wellcome Museum. Plate VII. shows a screen in the tuberculosis section reproducing pictures illustrating the causation of the disease and the influence of predisposing factors. Everyone interested in museums as educational institutions should procure a copy of Dr. Daukes's fine volume, and, if we mistake not,

¹ "Medical Adventure: Some Experiences of a General Practitioner." By Dr. Ernest Ward, M.D. (Cambridge), F.R.C.S. (England). With a Foreword by Dr. H. H. Bashford. Pp. xii + 291, with portrait-frontispiece and figures. London: John Bale, Sons and Danielsson, Ltd., 83-91, Great Titchfield Street, W. 1. 1929. Price 8s. 6d.

² "The Medical Museum: Modern Developments, Organization, and Technical Methods based on a New System of Visual Teaching." By S. H. Daukes, O.B.E., M.D., D.P.H., D.T.M. & H., Director of the Wellcome Museum of Medical Science, affiliated to the Bureau of Scientific Research. Pp. 183, including 44 full-page plates. London: The Wellcome Foundation, Ltd., Endsleigh Court, 33, Gordon Street, W.C. 1. 1929.

this will speedily lead to a visit being made to the Wellcome Museum of Medical Science, 33, Gordon Street, London.

Dr. H. R. Harrower has devoted himself to the study and preparation of endocrines in forms likely to be of service in medicine, and has written many books on the subject. He has now issued a fresh publication in the form of diagnostic charts, together with a synopsis of endocrine symptomatology and other matters likely to be of service to those engaged in endocrine-therapy. Reference is made to the use of spleen preparations in tuberculosis.¹

Messrs. Livingstone have just published a practical little work on Section-Cutting for the Microscope, which will appeal to many scientific workers, especially those connected with biology in its various branches of zoology, anatomy, physiology, and pathology.² It supplies students with detailed instructions for the preparation of microscopic sections according to the standard, paraffin, and colloidin methods. Anyone following the directions so lucidly expressed in this modest volume should speedily become expert in embedding, cutting, and mounting microscopic specimens.

From the offices of *Country Life* has been issued a little book of practical wisdom.³ It is a collection of recipes and helpful hints provided by housewife readers of *Homes and Gardens*. This heterogeneous gathering of serviceable knowledge cannot be classified, but all needs are met by a full index, which is placed at the beginning. Doctors, nurses, and especially superintendents of sanatoria and like institutions, as well as every class of patient, will find this little volume has much sound advice expressed in commonsense language. It is a reference book which a good housewife should always have at hand.

The papers presented at the Second International Conference on Light and Heat in Medicine and Surgery, held last November in London, are now available in volume form, reprinted from the *British Journal of Actinotherapy and Physiotherapy*, together with records of the discussion which followed each communication.⁴ Among the contributors are: Sir Henry Gauvain, Drs. C. B. Heald, W. J. O'Donovan, W. Kerr Russell, A. Eidinow, M. Weinbren, C. C. Morrell, Professor Nagelschmidt of Berlin, Dr. A. J. Cemach of Vienna, Dr. W. Flaskamp of Erlangen, and Mr. M. J. Dorcas of Cleveland, U.S.A. The work will be of interest and service not only to specialists, but to many of the new recruits to actinotherapy and physiotherapy, and especially diathermy, electro-therapeutical procedures, and so-called foam treatment. Dr. Weinbren's able article on "Ultra-Violet Irra-

¹ "Endocrine Diagnostic Charts," with other related information. Compiled by Henry R. Harrower, M.D. Pp. 144. Glendale, California, U.S.A.: The Harrower Laboratory, Inc. Copies may be obtained from Endocrines Limited, Watford, Herts; and from the London Office, 72, Wigmore Street, W. 1.

² "An Introduction to the Technique of Section-Cutting." From the notes of the late Peter Jameson. Edited by Frances M. Ballantyne, M.A., Assistant in the Zoology Department of the University of Glasgow. Pp. 80, with 11 figs. Edinburgh: E. and S. Livingstone, 16-17, Teviot Place. 1928. Price 3s.

³ "Five Hundred Household Hints." By Five Hundred Housewives. Pp. 121. London: Offices of *Country Life*, 20, Tavistock Street, Covent Garden, W.C. 2. 1928. Price 2s.

⁴ "Light and Heat in Therapy, with a Chapter on 'Foam Treatment.'" Pp. 174, with illustrations. London: The Actinic Press, Ltd., 17, Featherstone Buildings, W.C. 1. 1929. Price 6s. 6d.

diation in the Treatment of Chronic Pulmonary Tuberculosis" will be of special interest to readers of this Journal.

"The Medical Annual" is now in its forty-seventh year, and fully maintains the high standard set by preceding issues, and the right to be considered as the indispensable year-book of the busy practitioner who desires to keep abreast with the rapid advancement which now characterizes all departments of medicine.¹ The editors have been ably supported by their carefully selected staff of thirty-one representative and authoritative contributors. The volume, both on account of its substance matter and alphabetical arrangement, is an ideal reference work for rapid consultation by the general practitioner, and it contains much that will be of interest and value to tuberculosis specialists. There are surveys of tuberculosis as it affects the various parts of the body by recognized experts. Dr. Eidinow contributes an informing survey of phototherapy, and Dr. Thurstan Holland deals with radium and X-ray therapy. Professor John Fraser reviews the subject of tuberculosis of bones and joints, while Professor W. H. Wynn deals with pulmonary tuberculosis, and Sir W. I. de C. Wheeler writes on tuberculous glands in the neck. There is a serviceable Directory of Sanatoria for Consumption and other Forms of Tuberculosis. Truly "The Medical Annual" is a work which no doctor can be without.

"Pears' Cyclopædia" is now in its thirty-fourth edition, and 2,600,000 copies have been issued. It is a collection of some twenty-two works of reference, including an English dictionary alphabetically arranged, paragraphs of general information, biographical sketches of distinguished men and women of all ages and countries, a classical dictionary, a compendium of everyday information, a gazetteer of the world, and special dictionaries relating to historical events, gardening, poultry, cookery, health, sports, business, photography, motoring, etc. There are also upwards of fifty maps and flags of the Empire and various countries in colour. The volume is a marvellous production, and every citizen should possess a copy.²

The Clinical Research Association, Ltd., Watergate House, York Buildings, Adelphi, W.C. 2, have just issued a third edition of their serviceable "Practitioner's Guide to Clinical Research." It is an illustrated volume of 168 pages, setting forth in conveniently arranged sections concise, informing, serviceable summaries of recent advances in bacteriology, serological blood chemistry, etc., in their bearing on clinical medicine. There is an excellent alphabetical list of diseases, in the investigation of which laboratory tests may prove valuable and a practical account of the technique of specimen collection.

¹ "The Medical Annual: A Year-Book of Treatment and Practitioner's Index." Edited by Carey F. Coombs, M.D., F.R.C.P.; and A. Rendle Short, M.D., B.S., F.R.C.S. Forty-seventh year. Pp. c+612+159, with numerous illustrations and plates, many in colours. Bristol: John Wright and Sons, Ltd. 1929. Price 20s.

² "Pears' Cyclopædia." Edited by Herbert C. Barratt, assisted by ten specialist associate editors. Pp. 1054. London: A. and F. Pears, Ltd., The Soap Works, Isleworth. 1929. Price 2s. 6d.

PREPARATIONS AND APPLIANCES.

HYGIENIC APPLIANCES AND THERAPEUTIC PREPARATIONS.

THE BLACK KNIGHT EYE PROTECTOR is a novelty which many patients undergoing open-air treatment during summer days will welcome.¹ Not a few patients find that, with the coming of the morning light, they are awakened from their night sleep. The simple contrivance shown in use in the accompanying illustration practically explains



THE BLACK NIGHT EYE PROTECTOR.

itself. It is a simple, light, black bandage which, by means of loops over the ears, is fixed in position across the eyes. The fine, soft, dark cloth causes no irritation and induces sleep. (The cost is only 50 cents post paid, or seven for \$3.00.)

In the January issue of this JOURNAL we gave an illustrated notice of the RICHMOND HEAD REST. New models of this ingenious and serviceable appliance for invalids, convalescents, brain workers, and lovers of comfort have now been introduced, and include pneumatic collapsible varieties.² The appliance consists of a special rubber encased in an attractive, artistic cover which can be detached for cleansing. For doctors and nurses this will be a welcome gift, and patients, travellers, and lovers of ease will be glad to receive the new Richmond Head Rest.

A FLIT OUTFIT is practically a necessity for all who love their garden and who desire to live an open-air life without trouble from insect pests.³ It will be much appreciated in sanatoria and open-air schools. Flit is a liquid, non-poisonous, non-irritant oily insecticide which is distributed by means of a spray appliance. Wherever flies, mosquitoes, wasps, moths, ants, cockroaches, beetles, and the like pests cause trouble, use Flit.

¹ The Black Night Eye Protector is made by the Night Manufacturing Co., Harvard Square, Cambridge, Mass., U.S.A.

² Particulars regarding the various forms of the Richmond Head Rest can be obtained on application to Feans, Ltd., 71, High Holborn, W.C. 1.

³ Particulars regarding the Flit Outfit can be obtained from the Anglo-American Oil Company, Ltd., Albert Street, Camden Town, N.W. 1

The grounds of hospitals and the gardens of sanatoria and the playing lawns of open-air schools and all places where children are being cared for and patients are undergoing treatment should be centres of beauty. The firm of Burton Holt (Chelsea), Ltd., are supplying a delightful series of charming ornaments which we would commend to the notice of our readers.¹ We would direct special attention to the LITTLE FOOD STANDARD for birds. This is an artistic metal frame with a ring for the suspension of a cocoa-nut, much beloved by tits and other birds. The price is 7s. 6d. We have found this novelty gives great delight to little patients in the Children's Sanatorium of the National Children's Home and Orphanage at Harpenden.

The KEPSTON SWIVEL-BACK CHAIR provides means whereby summer days and an open-air life can be enjoyed to the full.² Both the well and the sick, if they are to obtain the maximum benefit from rest in the open, must be supplied with a really comfortable and portable chair. The Kepston is ideal; its swivel back enables every sitter to be adjusted comfortably in any posture, and to have thorough and reliable support. The back comes down low, almost to the seat, and therefore not only gives support, but protection. It is very strong, and the attractive green canvas is most durable. There are also side supports for the arms. The chair folds up into a small space, and is easily carried and readily stored. It can also be used with comfort and advantage indoors, and is an ideal bit of furniture for country cottages and bungalows. It is also just the chair to take abroad to anywhere in Britain Overseas. The chief features of this excellent chair are indicated in the accompanying figure. (The price is 14s. 6d.)



THE KEPSTON SWIVEL-BACK CHAIR.

The Rawlplug Company have introduced a series of novelties which have won the blessing of doctors and nurses, and are now used in many homes and institutions and approved by all sorts and conditions of men and women.³ RAWLPLUG OUTFITS (price 1s. 6d. to 22s. 6d.) provide the ingenious Rawlplugs, tools and equipment, ready for use. These tubes of tough fibre, stiffened and chemically treated, can be introduced into wall or other surfaces, and hold the enclosed screw which makes

¹ An illustrated catalogue of the "Chelton" Garden Ornaments can be obtained on application to Burton Holt (Chelsea), Ltd., 1, Victoria Street, Westminster, S.W. 1.

² Further particulars regarding the Kepston Swivel-Back Chair can be obtained from the makers, Kepston, Ltd., Berkhamsted, Herts.

³ Particulars regarding the Rawlplug Novelties can be obtained on application to the Rawlplug Co., Ltd., Cromwell Road, S.W. 7.

for itself an automatic thread. The service of the Rawlplug is limitless, and these indispensables should always be kept at hand in every class of habitation. The RAWLPLUG AERO-SPRING CASTOR is another practical novelty. They are designed as fitments for chairs, settees, beds, etc., in neat, unobtrusive forms finished in copper-bronze. These castors do not scratch floors or damage carpets, add to the life of furniture, and act as stabilizers of furniture, making such stand steadily even on irregular floors (price for set of four, 3s. and 3s. 6d.). RAWLPLUG DUROFIX is an adhesive with exceptional powers for resisting heat and water and possesses exceptional tenacity and strength. It is a universal repairer of broken things, and in its orange containing tube is always ready for use (price 6d. and 1s. each tube). RAWLPLUG LIQUID PORCELAIN is a preparation which when painted over metal or wooden pails gives them a rich glossy white surface. It is excellent for applying to

bathroom fittings and taps and the like, thus saving much unnecessary labour (price, in tins, 1s., 1s. 6d., and 2s. 6d.).

The SANIBIN is a sanitary equipment which should be found in hospitals, sanatoria, surgeries, and wherever dressings and other insanitary materials have to be collected before being satisfactorily disposed of.¹ The essential features are clearly indicated in the annexed figure. It is of metal, enamelled white, and can be readily fixed in the corner of an operating theatre, lavatory, or



THE SANIBIN RECEPTACLE.

elsewhere. The whole of the contents of the Sanibin are readily removed by releasing the spring, and fall into a suitable receptacle. The whole appliance can be easily cleaned and disinfected. (The price is 16s. 6d.)

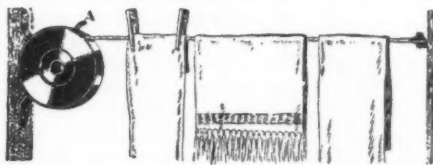
The WAHL EVERSHARP DESK FOUNTAIN PEN is an ideal present for a doctor, and may well have a place on every consulting-room table.² It is a novelty which is likely to rank in popularity with the now well-known Eversharp pencils. Artistic in form and available in many colours, the new Desk Pen is also a thing of real utility, and should quickly replace the old-fashioned and dirty inkstand. The pen is of the fountain type, and the nib is kept moist in a special humidor cap which is attached to a marble or onyx base of varying designs by a small ball-and-socket joint. The outfit is thus always ready for immediate use. This ingenious and serviceable companion for the consulting-room, study table, or office is a practical ornament for any desk or table.

The AUTOMATIC SELF-WINDING CLOTHES LINE (price 2s. 6d.) is a

¹ The Sanibin is manufactured by Robert Bailey and Son, Ltd., Marriott Street Mills, Stockport.

² Particulars regarding the varieties of Wahl Eversharp Desk Fountain Pen can be obtained on application to the Wahl Eversharp Company Ltd., 195-199, Great Portland Street, W. 1.

novelty which will be appreciated in many small houses and flats and be found of service in connection with the work of nursing homes, kitchens, centres for children, and small hospitals and sanatoria.¹ The chief features are shown in the accompanying figure. The circular case which is attached to a wall or some convenient place provides a self-acting rotatory device for winding a length of strong string, which, having its distal end suitably fixed, serves as an 18-ft. clothes line. The spring is controlled by a little lever so that when the appliance is not wanted the line can be automatically brought into the case and so kept clean. This lever also fixes the line to any desired length.



THE AUTOMATIC SELF-WINDING CLOTHES LINE.

THE "PAROLEINE" ATOMIZER is an effective apparatus for the application of medicaments to the nasal fossæ, the naso-pharynx, and the respiratory passages.² It produces a spray which is finely divided, and allows for an even distribution of the agent which is being employed. This appliance is simple in construction, durable, and all



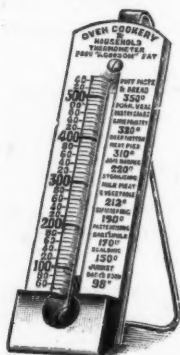
THE "PAROLEINE" ATOMIZER.

parts, with the exception of the rubber bulb, are of glass, and so can be readily cleaned and thoroughly sterilized. There is a fine wire-gauze sieve in the essential part of the atomizer, which stops dust or other matter from clogging the spray, and a rubber washer fixed to the bulb prevents the possibility of leakage. The accompanying figures illustrate the simplicity and effectiveness of this B. W. and Co. Atomizer. It is admirable for using with the new "VAPOROLE" EPHEDRINE SPRAY COMPOUND, which consists of ephedrine 1 per cent., menthol, camphor, and oil of thyme each 2 per cent., in a base of "Paroleine," which is a

¹ The Automatic Self-Winding Clothes Line is supplied by William Penn, 682, Holloway Road, N. 19. Price 2s. 6d. complete.

² Particulars regarding the "Paroleine" Atomizer and the "Vaporole" brand Ephedrine Spray Compound can be obtained from Burroughs Wellcome and Co., Snow Hill Buildings, E.C. 1.

specially prepared liquid paraffin of high quality. This preparation promises to be of much service in affording relief in conditions of engorged and catarrhal conditions of the nasopharynx. It is supplied in 1-ounce bottles.



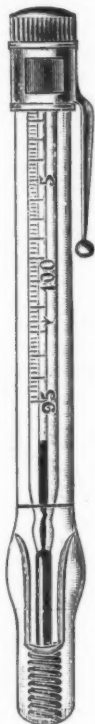
THE "ACCOSON"
OVEN COOKERY
THERMOMETER.

The "ACCOSON" OVEN COOKERY THERMOMETER will be approved by all those who desire accurate guidance in their cooking procedures.¹ The chief features of this scientifically designed register are indicated in the accompanying figure. All good house-keepers and cooks should be provided with one, and for service in hospitals, sanatoria, nursing-homes, and in connection with other institutional kitchens this reliable guide is simply indispensable.

The "ACCOSON" ASEPTIC CLINICAL THERMOMETER HOLDER should be known to all doctors and nurses, and particularly to those dealing with tuberculous and other infective cases.² The clinical thermometer, if used improperly, may be a carrier of disease, but with the holder, the chief features and use of which are indicated in the accompanying figure, this essential aid to practice may be kept in an aseptic condition and always ready for use.

A TEMPERATURE CHART is recognized as a clinical necessity for patients, but in every hospital, sanatorium, and open-air school, whatever system of ventilation and heating are employed, it is most desirable that a graphic record of the temperature of each place where patients are under treatment should be kept. The Educational Supply Association provides an excellent mounted school temperature chart, which should be found in use in every institution dealing with children (price 1s.).³ The same firm also provides a chart for the registration of weather conditions.

THE SCHICK REPEATING RAZOR is a novelty which will interest doctors and patients, travellers and sportsmen, and others who appreciate comfort, convenience, and effective service in conducting shaving.⁴ There are twenty blades contained in the handle of each Schick. The appliance is ingeniously combined and skilfully constructed. A push and a pull and literally the razor is



THE
"ACCOSON"
ASEPTIC
CLINICAL
THERMOMETER
HOLDER.

¹ The "Accoson" Improved Oven Cookery Thermometer is manufactured by A. C. Cosser and Son, Accoson Works, Vale Road, Finsbury Park, N. 4.

² Particulars of the "Accoson" Aseptic Clinical Thermometer Holder can be obtained from Medical Surgical Sundries, Ltd., 97, Swindon Road, Wembley.

³ Particulars of the School Temperature Chart can be obtained on application to the Educational Supply Association, Ltd., Esavian House, 171-181, High Holborn, W.C. 1.

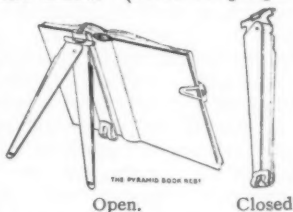
⁴ The Schick Repeating Razor can be obtained from Doubleday Products Ltd., Morley House, 314-322, Regent Street, W. 1.

ready for use, and there are no parts to be taken to pieces and cleansed and replaced. This ingenious razor is very popular in America, and is likely to find much favour in this country. The price complete is 27s. 6d.

The MULCUTO SAFETY RAZOR will find favour with doctors and patients as well as with the ordinary man in the street.¹ It will be specially appreciated by consumptives and other subjects in hospitals and sanatoria, or persons travelling for health. The Mulcuto is of simple construction, durable, readily cleaned, and always ready for service. There are seven hollow-ground blades, marked according to the days of the week. All fit into an attractive and convenient case. (The prices of the outfits are 7s. 6d. and 9s.)

The MYATT DAYMARK SAFETY RAZOR BLADES will appeal to those who employ the Gillette type of safety razor.² Each blade is marked with the day of the week, thus allowing for the methodical resting and consequent increased efficiency of the blade. (Price 1s. 3d. per set of five.)

The PYRAMID BOOK REST will be appreciated by patients as well as by students and all classes of book-readers.³ It is made of brass, nickelled and polished, and consists of a sliding arm which is readily clamped to the covers of book or magazine. There are two hinged, collapsible legs which support the book. A ribbon marker is attached to a metal clip which also holds the pages at the desired opening. This book rest can be folded and carried in the pocket and so kept ready for use. (The price is 2s. 6d. each, or electro-plated in leather case, 10s. 6d.)



THE PYRAMID BOOK REST.

The ANGELIGHT PORTABLE ELECTRIC FITTING will appeal to doctors, nurses, patients, and all travellers for health and comfort.⁴ It provides a portable electric light which can be readily attached anywhere—consulting-room desk or chair, patient's reclining-couch or bedstead, operating-table, etc. The appliance consists of a double-hinged arm and adjustable clamp fitted with a multiple screw, rubber-tipped grip, and a special extending device, with double hinge, which permits the light to be adjusted to any angle. The Fitting can be readily folded up into small compass and carried in a hand-bag or placed in the pocket. (The price is 21s.)

The BEDSWITCH is a novelty—simple, inexpensive, and effective—which patients and others will appreciate, for it provides a ready means for switching off the electric light without getting out of bed.⁵

¹ The Mulcuto Safety Razor is supplied by the Mulcuto Manufacturing Company, 99, High Street, Southend-on-Sea.

² The Myatt Patent Daymark Blades are manufactured by W. J. Myatt and Company, Ltd., Argent Works, Birmingham.

³ The Pyramid Book Rest is supplied by the Trade Brush and Patents Company, Ltd., 24, College Street, Cannon Street, E.C. 4., and can be obtained from all branches of Boots Libraries, W. H. Smith and Sons shops, or any high-class book-seller.

⁴ The Angelight Portable Electric Fitting is supplied by Ainge and Brinsleys, 48, Maddox Street, W. 1.

⁵ The Bedswitch is supplied for 5s. 6d., post free, from the inventor, P. M. Braidwood, Somerset Road, New Barnet.

The WARMIT HEATER is an ingenious electrical device whereby patients, delicate persons, and all others who desire comfort and protection from cold during the trying winter season may be provided with a warming appliance which is inexpensive, portable, safe, reliable, and can be operated from an ordinary electric bracket at a cost of 1d. per hour.¹ The heat generated is constant and can be controlled by the user. It is admirable as a bed-warmer, linen-airer, and has been found of service in keeping liquids warm. The price is 12s. 6d., but special terms are allowed to hospitals and to members of the medical profession.

The "JUREX" HYGIENIC RUBBER NAIL BRUSH is a practical agent for the cleansing of hands and nails, and will be appreciated by doctors, nurses, and others in hospitals, sanatoria, and similar institutions, teachers, and those having the care of children in open-air schools, sportsmen, industrial workers, and indeed all citizens who desire an effective agent for manual cleansing.² The brush is composed of rubber with small rubber bristles, which massages the skin surfaces and facilitates the washing of hands. It can be thoroughly sterilized, is durable, and may also be used in the general bath, especially for the cleaning of the feet and for the washing of collars and fine linen.

The "RUBA" RUBBER BATH BRUSH is an hygienic novelty which will be of service alike to the fit and the ailing in hospitals and other institutions for the sick, and in schools, homes, and ordinary houses where dwell all sorts and conditions of folk.³ The care and cleansing of the skin is of the utmost importance in the maintenance of health and in restoration from disease, and this is particularly the case for all tuberculous subjects. The "Ruba" Bath Brush not only provides a valuable means for cleansing the cutaneous surface of the body, but also is an agent whereby an invigorating massage can be carried out with the minimum of trouble and the maximum of benefit.

The SORBO SILENT LAVATORY HANDLE should be found in every w.c. closet in hospitals, sanatoria, nursing homes, open-air schools, and private dwellings, for it does away with noise and avoids damage to walls.⁴ The bulbous handle covered with non-porous rubber is supplied in various shades, plain or in imitation marble. The price is only 1s. 6d.

"RONUK" is known and used almost everywhere as a preparation of the greatest value in maintaining a high standard of sanitary efficiency in hospitals, sanatoria, schools, and other institutions, as well as in ordinary consulting-rooms, offices and dwelling-houses. "Ronuk" is now available in an excellent series of preparations. We would specially commend for service in sanatoria, open-air schools, and other centres where tuberculous cases are to be found, the Hospital "Ronuk" Concentrated and the Hospital "Ronuk" Floor Dressing, both of which are supplied in convenient tins. The manufacturers of "Ronuk" have issued an informing brochure, "The Sanitary Treatment of Floors,"

¹ The Warmit Heater is supplied by the Car and General Patents Company, Ltd., Thanet House, 231, Strand, W.C. 2.

² Particulars regarding the "Jurex" rubber products can be obtained from the Jurex Rubber Co. (A. E. Foxcroft), 37, South Castle Street, Liverpool.

³ Particulars regarding the "Ruba" Rubber Brushes can be obtained from Rubber Brushes, Ltd., 125, High Holborn, W.C. 1.

⁴ The Sorbo Silent Lavatory Handle is supplied by Sorpex, Limited, 1, Albert Street, Birmingham.

which we commend to the consideration of all interested in the sanitation of hospitals and sanatoria for consumptives and other tuberculous subjects.¹

ENDOCRINES are agents which still are enshrouded in mystery, but we know sufficient to realize that in many human derangements they may be employed with great advantage. It would seem that in cases of tuberculosis endocrines, if wisely selected and combined, can be most helpful. Dr. Harrower in his latest suggestive work has a valuable chapter on "Calcium Metabolism in Pregnancy," in which he points out that the parathyroid gland acts as regulator of the body's lime storage.² It would seem that many tuberculously disposed pregnant women might be advantaged by a course of appropriate endocrines. The administration of Adreno Spermin CO (Harrower) has been advocated for suitably selected cases of tuberculosis.³

IODURUM is a convenient preparation of iodine in solid form and contained in a metal pocket case.⁴ It is an ideal agent for application where iodine is indicated.

THE GAL TOILET SOAP, supplied in dainty wrappers and artistic boxes, makes admirable presents for both the strong and the sick.⁵ The soap is of the highest quality, made from purest Spanish olive oil, and is delicately perfumed. For the hygienic care of the skin and the maintenance of face and hands in a perfect condition this toilet necessity stands in the front rank.

HORLICK'S MALTED MILK has for long been a favourite nutrient and palatable beverage for all cases, and has provided special benefit for consumptive and other tuberculous subjects.⁶ Doctors, nurses, and all who have to care for patients, will welcome the coming of the new chocolate-flavoured malted milk. We have found it most delicious, and we would strongly commend it to the notice of everybody. It is supplied in sealed glass bottles, and a special mixer is available which much facilitates the proper preparation of this ideal drink. Huntley and Palmers, Ltd., the famous biscuit manufacturers of Reading, are now making Horlick Biscuits and Horlick Creams, which can be strongly recommended both for invalids and healthy persons. Their fat value is high, but the fat, protein, and carbohydrate ingredients are in quantities which make a balanced food. The milk solids increase the general nutritional value and serve as a source of vitamins. The malted character of the product provides some degree of predigestion. These biscuits not only possess a high nutritional value but are really delicious. For tuberculosis subjects they are excellent.

BICKIEPEGS and CHU-CHUS are dietetic novelties for babies and young children, designed in accordance with modern ideas, which

¹ Particulars regarding "Ronuk" preparations can be obtained on application to Ronuk, Ltd., Portslade, Sussex.

² "The Endocrines in Gynecology," by Henry R. Harrower, M.D. Pp. 256. London: Endocrines, Ltd., 72, Wigmore Street, W. 1. 1927.

³ Particulars of the Harrower series of Endocrine preparations can be obtained from Endocrines, Ltd., 72, Wigmore Street, W. 1.

⁴ Iodurum can be obtained from the R. Demuth Works and Laboratories, 68, Salisbury Road, and Montrose Avenue, N.W. 6.

⁵ Particulars regarding the Gal toilet preparations can be obtained from Perfumeria Gal (London), Ltd., 76, Strand, W.C. 2.

⁶ Specimens of Horlick's malted preparations will be supplied to medical practitioners on application to Horlick's Malted Milk Company, Ltd., Slough, Bucks.

promise to be of service in assisting in the development of sound teeth and the prevention of adenoid growths and rachitic manifestations.¹

ELIXIR OF EPHEDRINE (Abbott) has been found of service in some forms of spasmodic coughing, and would seem to merit trial in certain cases of pulmonary tuberculosis.²

EUMENTHOL JUJUBES are made in Australia, but have found favour the world over.³ We have used them in this country with great satisfaction. These dainty and pleasing gum pastilles are said to contain the active constituents of eucalyptus polybractea, thymus vulgaris, pinus sylvestris, mentha arv., with benzo-borate of sodium, etc. They possess valuable antiseptic properties, and exercise a local sedative and healing action. Tests have shown them to be reliable bactericides, and they are undoubtedly of much value, not only in the prophylaxis, but in the treatment of cases of oral sepsis and local lesions of the mouth, tonsils, and pharynx. Moreover, in certain gastro-intestinal arrangements Eumenthol Jujubes are of service. This medicated pastille is one of the best of its kind, and it is a preparation which we specially commend to the notice of tuberculosis officers and medical superintendents of sanatoria in this country; by its regular use the dyspeptic ulcers and oral troubles which are so common in many consumptives and other tuberculous subjects can be prevented, or, if they do occur, the discomfort will be lessened and recovery hastened.

ANTIKAMNIA AND CODEINE TABLETS are well known as providing relief in many cases of headache, neuralgia, dysmenorrhœa, and so-called rheumatic pains.⁴ This preparation has also been found to be of assistance in relieving certain spasmodic tickling and night coughs. It is certainly a serviceable antipyretic and analgesic, and when administered under medical direction is often helpful.

NEW MIX is a novel dentifrice comprising certain pure fruit juices and alkalis put up in an ingeniously constructed collapsible metallic tube.⁵ It is claimed that the combination of agents provides elements which are not only cleansing and protective, but also serve as germicides and disinfectants. The preparation contains no soap and is free from grit.

PRUNOL is a pleasing and effective prune juice jelly, and contains senna, ginger, and Demerara sugar.⁶ It is a reliable laxative, which can be used for delicate subjects and young children. For the comfort of many constipated consumptives and other tuberculous subjects to whom powerful purgatives would be prejudicial, this dainty and comforting pharmaceutical preparation may be safely given.

¹ Particulars regarding Bickiepegs and Chu-Chus and other forms of rusks can be obtained from Bickiepegs, Ltd., Nursery Food Specialists, Welwyn Garden City, Herts.

² Particulars regarding Elixir Ephedrine can be obtained from E. H. Spicer and Co., Ltd., Watford, Herts.

³ The Eumenthol Jujubes are made by Hudson's Eumenthol Chemical Co., Ltd., Manufacturing Chemists, 31, Bay Street, Glebe, Sydney, Australia. London agents: wholesale, F. Newbery and Sons, Ltd., 31-33, Banner Street, E.C. 1; retail, W. F. Passmore, 320, Regent Street, W.

⁴ Antikamnia and Codeine is manufactured by the Antikamnia Remedy Company, St. Louis, Mo., U.S.A. The British Depot is at 46-47, Holborn Viaduct, E.C. 1.

⁵ New Mix is manufactured by Gilmont Products Ltd., 356, Grays Inn Road, W.C., from whom medical advisers may obtain particulars and specimens.

⁶ Particulars of Prunol can be obtained from Prunol Ltd, 28, Buckingham Gate, S.W. 1.

Under the designation of "NEPTUNETTES" and ANTI-SEASICK PLASTER there have been introduced preparations which are intended to serve as prophylactics for persons liable to sea, train, motor or air-sickness.¹

HOPOL W.C. POWDER is a special sanitary preparation for the cleaning and purification of the porcelain bowl or pan and trap of an ordinary water-closet.² It provides a simple, labour-saving, effective hygienic agent, which will be serviceable in institutions as well as in all modern houses. (Price 7½d. per tin.)

The following members of the Ellanbee brand of pharmaceutical preparations will be found of general service and particularly helpful in dealing with many consumptive and other delicate subjects.³ EUCA-PINE INHALANT is composed of eucalyptus, pine, menthol, wintergreen, terebene, etc., and forms an elegant and soothing preparation in the relief of nasal catarrhs. Some count it of service as lessening the risk of influenzal and other air-borne infections. COMPOUND GLYCERIN OF THYMOL provides convenient means for the ready production of a pleasant and effective mouth wash and gargle which oftentimes affords much relief in catarrhal conditions of the mucous membrane of mouth, nose and throat. It is prepared from re-crystallized thymol. ANAL-GERIC BALM (*Unguentum analgesicum*) is valuable in painful conditions such as sciatica, lumbago, fibrositis, panniculitis, and other "rheumatic" manifestations. It is best applied after the painful areas have been fomented with hot water.

CALVERT'S CARBOLIC PREPARATIONS have won world-wide fame since Dr. F. C. Calvert, in 1864, first provided carbolic in a form suitable for medical use.⁴ The House of Calvert now manufacture an extensive series of excellent preparations for medical, surgical, and sanitary uses. These include the five members of carbolic or phenic acid, also called carbolic or phenic alcohol, graded from No. 1, an extra refined quality for medicinal needs, to No. 5, an economic, efficient, and serviceable concentrated mixture of refined carbolic and cresylic acid free from tar oils, sulphuretted hydrogen or other impurities, which is an excellent disinfectant for general sanitary purposes. Calvert's Lysol consists of 50 per cent. cresols dissolved in a neutral vegetable soap, and forms a clean solution in all proportions of water. It is a reliable soluble antiseptic and disinfectant of much practical service in hospital and sanatorium work. Calvert's 15 per cent. Carbolic Disinfectant Powder, supplied in convenient canisters as well as in bulk, has long been approved for use in connection with domestic, municipal, and industrial procedures for the maintenance of hygienic conditions. A series of excellent soaps provides cleansing disinfectant agents for personal use. Special attention may be directed to the 20 per cent. medical soap extensively used by members of the medical and

¹ "Neptunettes" and Anti-Seasick Plasters are supplied by John Bell and Croyden (in association with Savory and Moore Ltd.), 50-52, Wigmore Street, W. 1, and 143, New Bond Street, W. 1.

² Hopol W.C. Powder is manufactured by Hopol Ltd., Zan Works, Wheelock, Sandbach, Cheshire.

³ Particulars and prices of the Ellanbee brand of preparations can be obtained on application to Lewis and Burrows Ltd., 22, Great Portland Street, W. 1.

⁴ Details regarding the Calvert carbolic preparations will be sent to any reader of this JOURNAL on application being made to F. C. Calvert and Co. (Clement Ward Lowe), Bradford, Manchester.

nursing professions. The Telos Fluid is a soluble disinfectant which serves for general disinfecting purposes and the cleansing of dormitories, corridors, kennels, stables, ashpits, and foul clothing, etc. Reference must be made to the simple Domestic Carbolic Vaporizer, by means of which a special 50 per cent. carbolic powder can be slowly vaporized for the disinfection of rooms and their contents. The firm of Calvert also manufacture a series of excellent dental powders and pastes, carbolic ointment, and have introduced a pumice soap for the removal of grease and other stains from the hands. The Calvert hygienic preparations only require to be used to be enthusiastically approved.

BAKOLYSE is the name given to a new preparation of amino acids and creatinin, which is the outcome of researches carried on by Dr. Hervouet of Paris, and which has been extensively employed during the past two years in pulmonary and other forms of tuberculosis.¹ The results in many cases are said to be excellent. Bakolyse is put up in 2 c.c. ampoules, and is introduced into the system by subcutaneous or intramuscular injections which are said to be painless. Some slight reaction may follow the initial injection, but is transient and unimportant. The ampoules are supplied in boxes each holding ten. This new preparation would appear to be worthy of a scientifically directed trial in this country.

IOSORBINE is a new colourless iodine cream which is not greasy and is rapidly absorbed.² It can be employed with advantage in a number of local conditions where iodine is known to be of service by rubbing in with hand massage, spread on lint or in association with Radiant Heat, Actinotherapy, or Diathermy.

KAMBEROL will be welcomed by all who seek relief from the irritating invasion of stinging flies and biting insects.³ It is a vanishing cream free from grease, but containing elements which, when rubbed into the skin, give it a long-time protection. The application does not stain or injure clothing, and is put up in convenient portable collapsible metal tubes. A special form is available for use in tropical countries.

The ELECTRIC GASLIGHTER is a scientific appliance which will be of service not only in private houses but in hospitals, sanatoria, schools, and other institutions where gas is used for lighting, cooking, or other purposes.⁴ It provides a ready, safe, hygienic means for lighting every kind of gas burner.

¹ Particulars regarding Bakolyse may be obtained on application to the Anglo-French Drug Co., Ltd., 238A, Gray's Inn Road, W.C. 1.

² Iosorbine is manufactured by Rouse and Sons, Ltd., 50, Mortimer Street, W. 1.

³ Kamberol is supplied by Kamberol Ltd., 11, Hart Street, Mark Lane, E.C. 3.

⁴ Particulars of the various forms of Gaslighters can be obtained from the makers, the Ever Ready Company (Great Britain), Ltd., Hercules Place, Holloway, N. 7.

THE OUTLOOK.

NOTES AND RECORDS.

DR. ERNEST WARD, Torquay Road, Paignton, Devon, Hon. Secretary of the Joint Tuberculosis Council, sends us the accompanying statement: At a meeting held at the House of the Society of Medical Officers of Health on May 18 the following members were elected on Committees: *Research*: Drs. Roodhouse Gloyne (convener), Vere Pearson, Lissant Cox, A. Lyndon, G. T. Hebert, E. Ward, Sir Henry Gauvain, and Professor Lyle Cummins. *Employment*: Drs. McDougall (convener), Sutherland, Vallow, Jane Walker, Jessel, Peter Edwards, and C. O. Hawthorne. *Memo*: Drs. Sutherland (convener), Crossley, Carling, Lissant Cox, and Professor Lyle Cummins. *Royal Commission*: Drs. Lissant Cox (convener), Burrell, Brand, Pearson, E. Ward, Lyndon, Sutherland, Vallow, Sir Henry Gauvain, and Professor Lyle Cummins. *Entertainment*: The officers of the Society and Dr. Hebert. *Training*: Sir Henry Gauvain (convener), Drs. Brand, Vere Pearson, Lissant Cox, and Professor Lyle Cummins. *Notification*: Drs. E. Ward (convener), Esther Carling, Hebert, and James Watt. The Secretary for Post Graduate Study reported that sixteen members of the Tuberculosis Service were now attending a special Tuberculosis Course in Paris. There are good prospects of a surgical course being held at Alton in July, and a further course on the interpretation of X-ray photographs in November. The Council considered a Memorandum on the Notification of Tuberculosis prepared by the Notification Committee, and a separate Memo from Dr. Lissant Cox on the advisability of introducing a single notification form so worded that it can be used for all purposes. It was decided to send Dr. Cox's Memorandum to the Ministry of Health for their opinion, and the Committee were also instructed to suggest an alteration in the present wording of the Tuberculosis Regulations, where they now read: "Provided that a Medical Practitioner shall not notify a case of Tuberculosis under this Article if he has reasonable grounds for believing that the case has already been notified, either under this order or under the previous Regulations or otherwise, to the Medical Officer of Health for the district within which the place of residence of the person is situate."

We have been favoured by the authorities of the Rockefeller Institute for Medical Research, Avenue A and Sixty-sixth Street, New York City, with recent volumes of the admirable series of "Studies" from the Institute. These publications consist of reprints of valuable communications dealing with pathological and clinical subjects relating to human and comparative medicine. Wherever research is being pursued these valuable studies should be available.

The well-known firm of Høvis, Ltd., manufacturers of our popular daily bread Høvis, has rendered motorists a notable service by the

issue of a new and reconstructed edition of their excellent "Road Map of England, Wales, and Scotland."¹ This consists of thirty-two full-page sectional coloured maps giving the chief features in a form which can be readily seen by a motorist when at the wheel. For general service the Hövis map cannot be beaten.

The railways of this country have this season published particularly attractive artistic guide-books, well illustrated and informing, regarding the various health and holiday stations on their respective systems. "The Holiday Handbook of the London and North-Eastern Railway" (price 6d.) is a monumental volume weighing $3\frac{1}{2}$ lbs., crammed full of interesting pictures, charming photogravures, maps and plans relating to desirable health resorts in the northern and eastern districts of Britain, together with particulars of hotels, boarding-houses, apartments, and other accommodation. The Great Western Railway Company have issued from Paddington Station two charming volumes, "The Cornish Riviera" and "Glorious Devon," the author of each being Mr. S. P. B. Mais, the popular novelist. These works are lavishly illustrated with photogravure plates, sketches in black and white and maps. The text consists of fascinating descriptions of the chief centres of interest in the western counties of Devon and Cornwall. We commend these beautiful volumes to the consideration of medical advisers and all who are seeking health, recreation, and new interests in the Delectable Duchy and beautiful Devon. (The price of each volume is 1s. paper cover, and 2s. 6d. cloth bound.) The G.W.R. has also issued a monumental volume of 936 pages entitled "Holiday Haunts" (price 6d.), giving pictures and practical details regarding all the health and holiday centres of the G.W.R. system, together with particulars relating to accommodation. The London, Midland and Scottish Railway has issued a 690-page volume, "Holidays by L.M.S.," which is a finely illustrated guide to health and holiday stations on the L.M.S. system. There is a serviceable list of camping sites, and an admirable railway map of England and Wales. The Southern Railway has issued an official volume, "Hints for Holidays in Southern Sunshine" (price 6d.). It is an illustrated guide to all the health and pleasure resorts on the Southern System in the South and West of England.

Health and holiday seekers will find up-to-date information and helpful suggestions in the compact and yet comprehensive guide just issued by the *Weekly Telegraph*.²

The Publications of the Children's Bureau of the U.S. Department of Labour are always of interest to doctors and others interested in child welfare. Bureau Publication No. 187, prepared by Nettie P. McGill, presents a useful summary of the principal findings of published reports of investigations of the work of children in agriculture.³ It is the first of a series which will deal with various aspects of child labour in America.

¹ The Hövis Road Map of England, Wales, and Scotland is issued by Hövis, Ltd., Macclesfield. Price 2s.

² The *Weekly Telegraph* Guide to Holiday Resorts of Great Britain and Ireland," pp. 490, with illustrations. Sheffield: *Weekly Telegraph* Office. London: 180, Fleet Street, E.C. 4. 1929. Price 6d.

³ "Children in Agriculture," by Nettie P. McGill. Pp. 81, with illustrations. Washington: Government Printing Office. 1929.

Dr. J. B. Magennis has issued his interesting records of cases treated by sanocrysin in brochure form.¹ He believes sanocrysin to be of much service in selected cases of pulmonary tuberculosis.

Dr. L. B. Aldrich has submitted to the New York Committee on Ventilation a report relating to experiments on body heat loss by radiation conducted at the Smithsonian Institution.² This study will be of service to those who are investigating the effects of moving air on the wellbeing of normal and disordered persons, or are studying the problems of ventilation.

The firm of C. Zimmermann and Co. (Chemicals), Ltd., 9 and 10, St. Mary-at-Hill, E.C. 3, have favoured us with a copy of the serviceable Tallquist Hæmoglobin Scale, which provides a convenient and reliable means for the clinical study of various forms of anæmia. It is a scale which will be found useful in hospitals, sanatoria, dispensaries, and open-air schools. Tuberculosis officers and medical superintendents of sanatoria who are subscribers to this JOURNAL can obtain one of these Hæmoglobin Scales free of charge on making application at the above address.

We learn that a body has been constituted under the title of the "Ultra-Violet and Allied Trades Association," consisting of a number of the leading firms engaged in the design, manufacture, and marketing of ultra-violet, physio-therapeutical, and other electro-medical apparatus, the objects of which are: to promote co-operation between manufacturers with a view to improvements in appliances; to provide a medium through which manufacturers may be taken into consultation by members of the medical profession; and to form a clearing-house for information on all points affecting the technical and constructional aspects of electrotherapy. The offices of the Association are at Kern House, 36, Kingsway, W.C. 2.

We hear that the Society of Apothecaries of London has appointed a permanent Scientific Committee for the Study of Radiation, and is also preparing a register of those practising light treatment.

In connection with the annual congress of the Royal Sanitary Institute to be held in Sheffield, July 15-20, a health exhibition will be held in the Cutlers' Hall in that city. Particulars from the Secretary, 90, Buckingham Palace Road, S.W.

In connection with the ninety-seventh Manchester Meeting of the British Medical Association, July 23-27, the Tuberculosis Section will be presided over by Dr. D. P. Sutherland, and among the subjects for discussion are: Apical and Infraclavicular Tuberculosis of the Lungs, Sanocrysin Treatment, and Conditions Simulating Pulmonary Tuberculosis.

An International Congress on Light Treatment will be held in Paris, July 22-27, under the presidency of Professor d'Arsonval. Particulars

¹ "The White Plague and Sanocrysin," by J. B. Magennis, M.B., B.A., B.Sc., Visiting Physician, St. Vincent's Hospital, Dublin. Reprinted from the *Irish Journal of Medical Science*. Pp. 9, with 27 X-ray photographs. Dublin: Cahill and Co., Ltd., Parkgate Printing Works.

² "A Study of Body Radiation," by L. B. Aldrich. Smithsonian Miscellaneous Collections, Vol. 81, No. 6. Publication 2980. Pp. 54. Washington: Smithsonian Institution. 1928.

may be obtained from Dr. W. Kerr Russell, 12, Park Crescent, Portland Place, W. 1.

At the Papworth Village Settlement for Sufferers from Tuberculosis in all its forms and manifestations on July 23, various ceremonies will be performed by the Duke and Duchess of York.

The fifteenth Annual Conference of the National Association for the Prevention of Tuberculosis will be held at Newcastle-upon-Tyne, October 10-12. The subjects for consideration include the following: "Tuberculosis on Tyneside: A Sociological Survey," "The Factors that Produce Adult Pulmonary Tuberculosis," "Scheme of National Propaganda Regarding Tuberculosis," "Combined Treatment and Technical Education of Tuberculous Youths," "Teaching of Tuberculosis to Undergraduates," "Methods of Local Propaganda Regarding Tuberculosis," "Training of Tuberculosis Medical Officers," "Dentistry in Relation to Tuberculosis." Particulars can be obtained on application to Miss F. Stickland, the Secretary, 1, Gordon Square, W.C. 1.

The *Practitioner* for July is a special Asthma Number. The *Prescriber* for July contains a survey of therapeutic progress in the management of tuberculous cases. The *Cripple* for July has a special supplement on the Slum Problem. *Sunlight* in its current number provides articles and illustrations relating to Sun-bathing and Hygienic Dress. *Tubercle* in its July issue presents articles on Sanocrysin. *Nutrition* contains notes on Vitamins, Besredka's Antivirus, and Sunlight Glaxo. *Hospital Social Service* in its issue for last February published suggestive papers on "After-Care in Tuberculosis" and "Social Service in the Treatment of Tuberculosis." The *Archives of Physical Therapy, X-Ray, Radium* for June contains a paper by Dr. S. H. Watson on "The Evaluation of Heliotherapy in Tuberculosis." The April-June issue of *The World's Health* celebrates the tenth anniversary of the foundation of the League of Red Cross Societies, and contains articles and illustrations of exceptional interest to all engaged in peace-time service for the furtherance of international health and happiness.